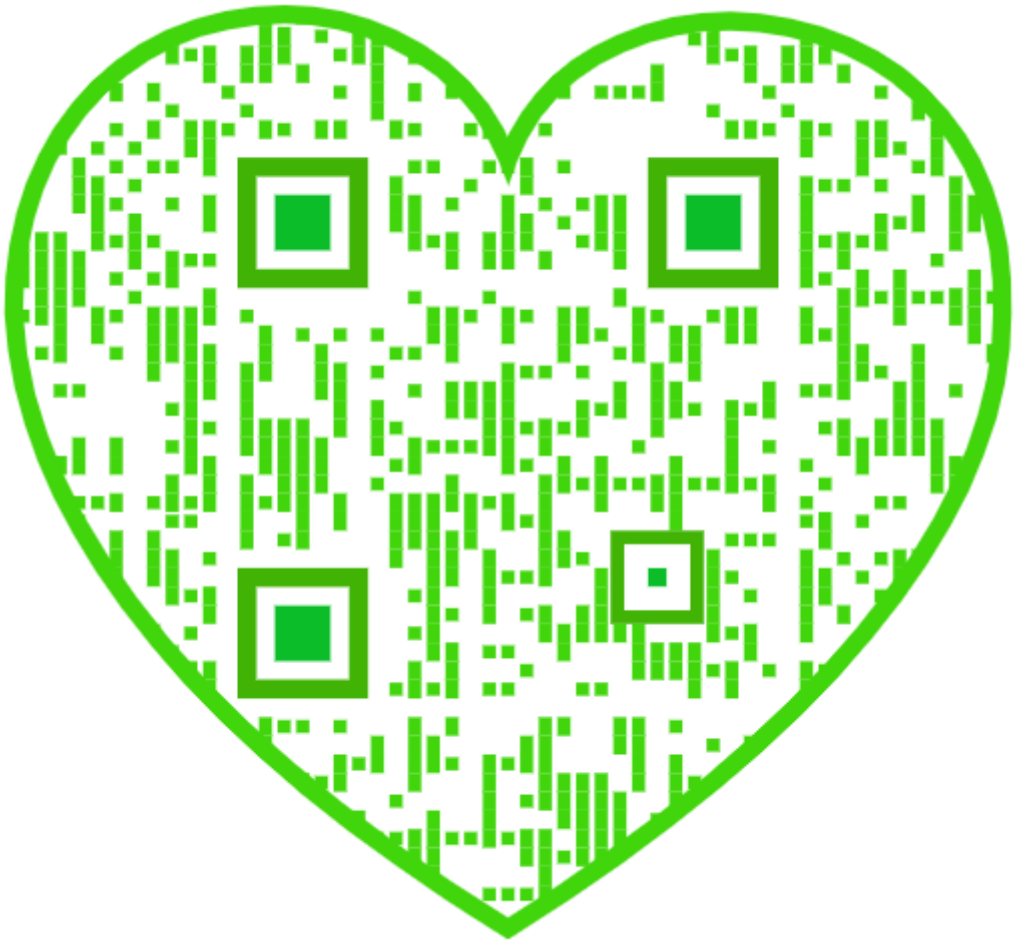

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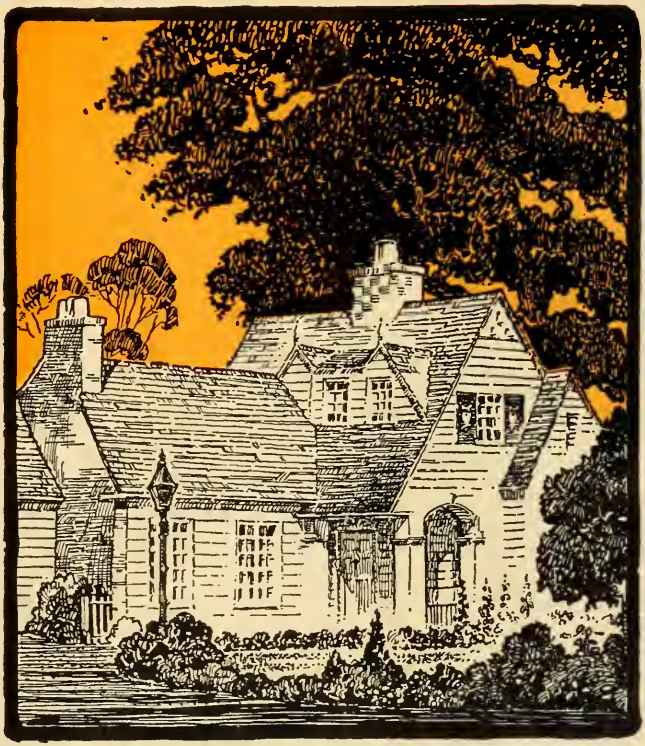


APRIL 1933

Why Escalators

were installed in the Metropolitan Life Building

The problem: In the new building of the Metropolitan Life Insurance Company, of New York City, the restaurants were placed at the second and third basement levels—thirty-four and forty-eight feet below the ground. At lunch time a great crowd of people (eight thousand employees in the first unit alone) would want to go to these restaurants and afterwards to the street before returning to work. How could the traffic of this noon-hour crowd be handled without throwing a great burden on the elevators and demoralizing service to upper floors?

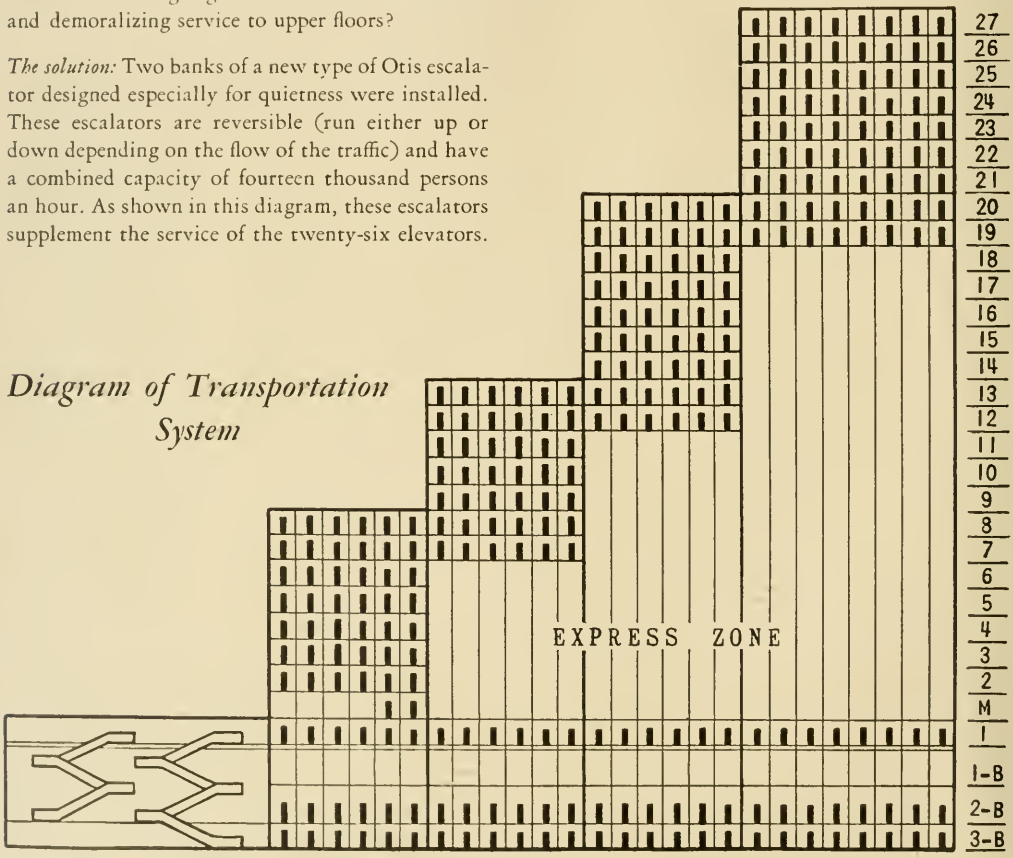
The solution: Two banks of a new type of Otis escalator designed especially for quietness were installed. These escalators are reversible (run either up or down depending on the flow of the traffic) and have a combined capacity of fourteen thousand persons an hour. As shown in this diagram, these escalators supplement the service of the twenty-six elevators.

Wherever a great throng must be carried a short vertical distance in the least possible time, escalators help solve the transportation problem—and here is an important point: *Many an old building may be transformed into a modern paying investment through the help of escalators.*

OTIS ELEVATOR COMPANY

Offices in the principal cities of the world

Diagram of Transportation System



Progress

and the Johnson System *of* *Automatic Temperature Control*

DESIGN · MANUFACTURE *and* INSTALLATION *by one complete, competent organization*

The Johnson System has kept abreast of the revolutionary changes that have come in the heating and ventilating industries in the last forty-five years. Continual improvements have been made in the design of existing apparatus and new devices have been developed. That's progress!

New and better materials have been used in the manufacture of Johnson equipment, after careful investigation and experiment have proved them worthy. Progress again!

Installation methods have been improved and new applications discovered. An experienced field force of engineers and mechanics has been trained. Progress of another sort which recognizes the fact that even the best apparatus must be applied and installed correctly!

Automatic temperature regulation since 1885

JOHNSON SERVICE COMPANY

Main Office and Factory, MILWAUKEE, WIS.

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The Evolution of JOHNSON *Apparatus . . .*

◀ Original box-wood thermostat with electrical contact and electro-pneumatic switch to command valves and dampers.

1890

▶ Modern DUAL thermostat. One temperature during the day. A reduced temperature at night or during non-occupancy hours.

1933

◀ Valve with diaphragm of rubber, the only practical flexible material then known

1890

▶ Present-day valve with "Sylphon" seamless metal bellows diaphragm, guaranteed for ten years.

1933

Thumb Tacks and T-Square

THAT the successful architect of the future must furnish his clients with a dependable analysis of what they may expect to derive from their investment, is the opinion expressed by W. E. Malm, President of the National Association of Building Owners, in a recent communication to the *Architectural Forum*. We quote Mr. Malm in part:

"Without meaning to cast discredit on architects, I am frank to state that for some years to come the "future" of the architect is rather dubious. The time has passed when projected improvements are sold as a result of beautiful renderings, as the economic phase of any project is the first essential in the mind of the prospective builder. Some architectural firms have come to the realization that this type of analysis is necessary to safeguard themselves, as well as the owner of real property, and the sooner this general scheme is adopted in the architectural profession, the sooner will the owners of real property proceed with rehabilitation work. . . .

"I am not unappreciative of the beauty which architects have brought to our modern structures, and I do not want to be condemned as being one who judges the modern trend wholly in terms of dollars, but during this period when it appears to be the survival of the fittest, I do want to impress upon you the necessity of convincing architects that never before have they faced a time when it is so necessary to prove that an investment will be profitable before the investment is made."

⁂ ⁂ ⁂

RAYMOND C. BUELL, structural engineer of San Francisco, thinks all the newspaper talk about more stringent building codes as a safety valve against disastrous earthquake effects in our school buildings, is largely misdirected energy. The remedy is not in new building codes, he says, but in proper supervision of design and construction by a competent engineer in the employ of Boards of Education. Mr. Buell maintains that: City building codes have nothing to do with schools. The latter are the property of the city and as such are not subject to regulation by city building codes nor are they under the supervision of city building departments. "For six long years," says Mr. Buell, "I argued for good construction with every school board in every city or town in California north of Porterville which contemplated building a school to cost over $50,000. I remember only three towns or cities in that whole district where the school plans had to be checked by the city building department. San Francisco schools, for example, are not subject to regulation or check by the city building department.

"There are only two cities or towns in northern California which have *specialized* on a type of construction, during the past eight years, which I would expect to withstand an earthquake such as occurred in southern California. They are San Francisco and the main schools in Fresno (not the gymnasiums).

"BUT, what if the schools were subject to supervision by the city building departments just as all other buildings are? There are not five cities or towns in the northern half of the state with a population of less than 25,000 which have a man in the building department capable of checking a building against an assumed earthquake force. There are less than one hundred men in the northern half of the state who have the knowledge and ability to make such a check. Probably ninety of these are in the bay district. One of the cities referred to must believe in preparedness for they have a local undertaker for city building inspector.

"I could name city after city where the school boards have sacrificed good construction to obtain one or two more classrooms. They engage their architects on a basis of fee instead of on a basis of reliability and reputation in the industry and never ask who the structural engineer is to be. These low fee or cut-rate architects do not have a structural engineer to make the structural design but do it themselves. That is one of the reasons their fee is low. I could name city after city where I remember the type of construction used and the architect who was employed, where I would expect the schools to cave in like empty egg shells if subjected to an earthquake, as they eventually will because the designs of these buildings never saw a structural engineer.

"But why stop at the cities and towns. The State Division of Architecture has so cut down and removed the authority from their structural engineering department that last year the engineers were unable to properly check the design of buildings awarded to outside architects. These buildings were schools, hospitals and insane asylums. Most of these buildings were designed by reputable architects and structural engineers but some of them were done by cheap engineers or low fee architects and were so bad that weaknesses could be seen at a glance. After some controversy, the structural engineers of the department succeeded in having them re-designed. But, how many weakly designed buildings, (hospitals for example), got by that one glance that the structural engineers were allowed to take.

"The pathetic part of the whole question is that the difference in cost between fire-proof, earthquake-proof schools and rattle trap or jerry built schools would seldom exceed 10% and would usually be nearer 5% than 10%. In most schools, enough bric-a-brac could be left off to pay the difference in cost."

⁂ ⁂ ⁂

THE building industry is a major one. More than two and one-half million people are directly dependent upon it for a livelihood and many more indirectly. It not only employs local labor, but quickens commerce by creating a demand which goes back to the forest, the quarry, the mine and the railroad. A building is nearly all labor because the trees, the rock, the clay and iron ore, are, in the raw state, of little value; the final value is impressed on them by labor. When building is stagnant, as it is today, every one suffers. The dearth of building is accentuating the present depression and we shall not begin to go up the hill again until this industry revives. The state of this industry today may be judged from the fact that in 1928 there was expended in the United States more than $3,000,000,000 (three billion) in residential construction. In 1932 the expenditure was less than $300,000.00—a decline of 90%.

Such a condition is nothing short of a calamity, not only in that the building trades are adversely affected, but once the homes are erected, a secondary demand is created for all kinds of furnishings and household utilities. This industry provides more employment to labor than any other except agriculture, and is vitally important. When the building market is active, the country is prosperous.

But the building market cannot be active if the shadow of constantly rising taxes lies over it. J. B. Berryman, the President of Crane Company declared, in a recent radio talk. "Every one," said

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William Wilson Wurster, Architect

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Elmer Grey

Next Month

The new men's gymnasium at the University of California, Berkeley, has recently been completed and Robert K. Sibley has written an interesting article to accompany the several illustrations. Plans will be shown in connection with the pictures.

Ralph D. Cornell contributes his second article, prepared especially for this magazine, on Landscape Architecture and City Planning. There will be numerous illustrations.

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Honorable Mention 1932 Better Homes in America Competition

HOUSE OF DR. ALISTER MACKENZIE, PASATIEMPO ESTATES, CALIFORNIA

WILLIAM WILSON WURSTER, Architect

THE
ARCHITECT
AND ENGINEER

APRIL 1933
VOLUME 113
NUMBER ONE

CALIFORNIA ARCHITECTS WIN RECOGNITION IN BETTER HOMES COMPETITION

THREE California architects received honorable mention for their house designs in the Better Homes in America Small House Architectural Competition for 1932 which was decided recently by a distinguished jury headed by Dwight James Baum, architect. The gold medal was awarded to Royal Barry Wills of Boston and in addition there were seven honorable mentions. All of the winning designs have been copyrighted and each design is the private property of its author. A complete report of the jury follows:

"The jury makes one award of a gold medal for the 1932 Better Homes in America Small House Architectural Competition, in the one-and a-half story class, to Royal Barry Wills, architect, of 3 Joy Street, Boston, Massachusetts, for the house of Maurice A. Dunlavy, Esq., at Brookline, Massachusetts. The jury feels that this house shows great charm, expresses the spirit of the locality in which it is built, has fine scale and composition and shows a good use of materials. It has an air of domesticity and shows great care in the manner in which all detail has been brought together. There is a good, frank use of chimneys and a fine handling of the entrance terrace. The plan is compact and well-arranged. There is a fine relation of rooms, combining with economical and efficient circulation. The library is arranged with real privacy. The service portions are well arranged. The second floor hall occupies the minimum amount of space, and yet this small house has ample size rooms.

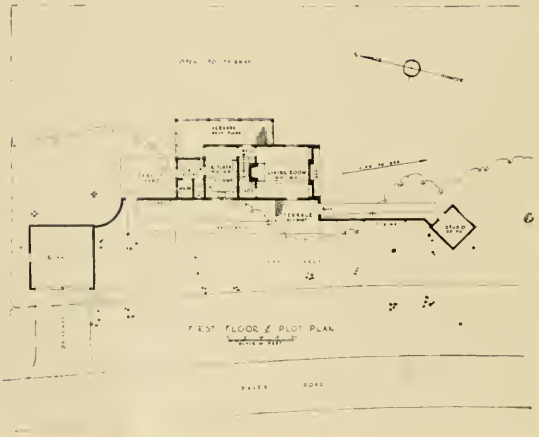
"An honorable mention is also given in this same class to the house submitted by Charles S. Keefe, of New York, which is owned by John J. Farrell, of Darien, Connecticut. This house is a fine handling of a small structure and shows good proportions and simple mass. The house will be easy to take care of through its plain straightforward layout. The materials are of the simplest and well used. The jury felt, however, that the front fenestration is too crowded and that large shed dormers could be less obstrusively handled.

In the one-story class, honorable mention was placed first for the residence of Leland F. Fuller, of Santa Monica, California, who is both the owner and architect. This house also shows simplicity in mass and composition, and the architect has expressed in his own home individuality and character with resulting great charm.

"Honorable mention was also awarded in the one-story class for the house of Dr.

Photo by Sturtevant

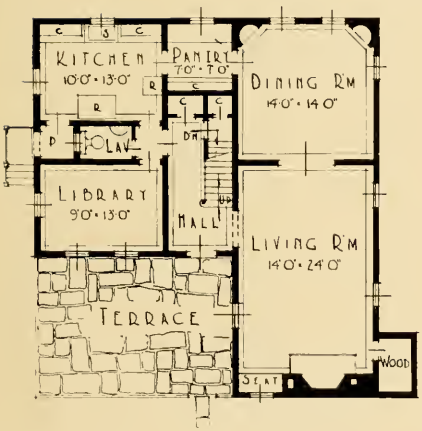
HOUSE OF DR. ALISTER MACKENZIE
PASATIEMPO ESTATES, CALIFORNIA
William Wilson Wurster, Architect



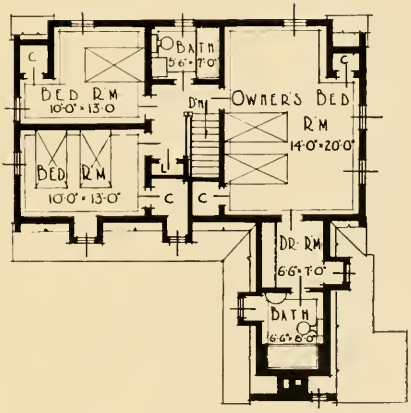
Seeley G. Mudd, in Sandyland Cove, Santa Barbara County, California, by the architect, Ralph C. Flewelling, of Beverly Hills, California. This is a successful solution of a special problem and shows good handling of a long, narrow site without the feeling of being crowded between its close adjoining neighbors. The house fits the site and the locality, is most appropriate for a seashore home, and it shows especially good handling of the simplest materials.

Gold Medal Award, 1932 Better Homes in America Competition

HOUSE OF MAURICE A. DUNARY, BROOKLINE, MASS.
Royal Barry Wills, Architect



FIRST FLOOR PLAN



SECOND FLOOR PLAN

PLANS, HOUSE OF MAURICE A. DUNLARY, BROOKLINE, MASS.
Royal Barry Wills, Architect

Honorable Mention, 1932 Better Homes in America Competition

RESIDENCE OF DR. SEELEY G. MUDD, SANTA BARBARA COUNTY
Ralph C. Flewelling, Architect

"In the two-story house class, an honorable mention placed first was awarded to the home of Dr. Alister Mackenzie, Pasatiempo Estates, near Santa Cruz, California, designed by William Wilson Wurster, architect, of San Francisco, California. The jury felt that this design shows a freshness that is noteworthy and most distinguished. This again is a fine solution of a special problem. A house of this quality and size would still look well if placed amid larger dwellings. The jury questions the porch arrangement in relation to the kitchen, and whether a house with one bedroom would be very practical under normal conditions.

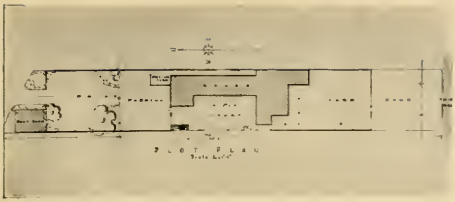
"Honorable mentions in the two-story class were also awarded to the following:

"To the home in Newtown, Connecticut, designed by William Webb Sunderland, architect, of Danbury, Connecticut. This shows a fine handling of traditional New England domestic architecture as to mass, fenestration, and detail, with the exception of the location of the chimneys. The jury regrets the placing of an interior bathroom.

"To the home of Rollin C. Chapin, owner and architect, of Minneapolis, Minnesota. This is another well-arranged, compact plan especially on the second floor; very livable in character, design, and materials used, that fits its environment without ostentation. The jury feels, however, that there is an unfortunate relation between the bedroom dormers and the stair gable. The placing of the study wing is especially fortunate.

"To the house of Miss Anna B. Van Nort, of Croton Heights, New York, designed by Miss Elizabeth Coit, architect, of New York. This home shows domesticity and real charm and fits its rugged country site very well. It is another simple, straightforward plan, except for different floor levels on the first story.

"The jury noted with interest the submission of only one design of radical modern architecture, indicating that the traditions of our country's domestic architecture are being continued and improved yearly by the contributions of architects in



PLOT PLAN, RESIDENCE OF DR. SEELEY G. MUDD
Ralph C. Flewelling, Architect

FLOOR PLAN, RESIDENCE OF DR. SEELEY G. MUDD
Ralph C. Flewelling, Architect

all parts of the country."

* * *

The following conditions governing entries were mandatory:

"The awards will be made to practicing architects for the best design submitted for each of three types of house—three medals in all:

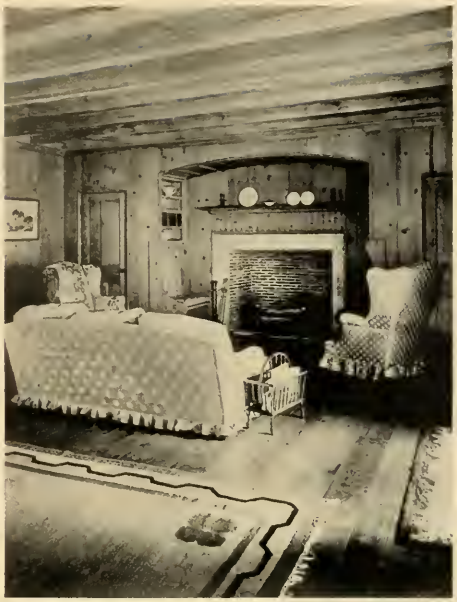
"(a) One story house
Storage space but no living accommodations may occur in roof space.

"(b) Story-and-a-half house
Living accommodations partly in a second story which is actually a "half story."

"(c) Two story house.

"The awards are aimed to discover and call attention to the best small houses actually constructed during the given period, ing the faulty design and construction of the really small house. To this end the and thus to stimulate interest in overcomactual cube of the house, above the level of the first floor, shall not be greater than 24,000 cu. ft. except for two story houses for which a cubage of 26,000 cu. ft. is permitted. Open porches estimated at ½ cube.

"Floor plans, blueprints or otherwise, showing first floor, and second floor if it has living accommodations. Two elevations. One or two photographs of exterior, preferably two. Two photographs (but not more than two) of interior may be submitted if desired; but the award is to be based upon the designs of the structure, not on its furnishings; therefore, interior photographs if submitted should be selected with this in mind.



CORNER OF LIVING ROOM,
RESIDENCE OF DR. SEELEY G. MUDD
Ralph C. Flewelling, Architect

"This award is intended as an annual award. Houses entered in the 1932 competition shall be those the construction of which was finally completed between the years 1927 and 1931 inclusive. Designs of houses which have been submitted in any given year cannot be resubmitted to the committee in later years.

"The awards will be made by a jury of five architects appointed by the President of the American Institute of Architects.

"The jury is not required to make any or all of the awards should there be no

Honorable Mention, 1932 Better Homes in America Competition

RESIDENCE OF DR. SEELEY G. MUDD, SANDYLAND COVE, SANTA BARBARA COUNTY, CALIFORNIA

RALPH C. FLEWELLING, ARCHITECT

Honorable Mention, 1932 Better Homes in America Competition

RESIDENCE OF DR. SEELEY G. MUDD, SANDYLAND COVE, SANTA BARBARA COUNTY, CALIFORNIA

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RESIDENCE OF MRS. LELAND F. FULLER, SANTA MONICA, CALIFORNIA
Leland F. Fuller, Architect

PLAN, RESIDENCE OF LELAND F. FULLER, SANTA MONICA, CALIFORNIA
Leland F. Fuller, Architect

houses submitted which in its opinion deserve a medal. In addition to the medals, however, the committee may also grant honorable mention to designs which are deemed worthy.

"In awarding honorable mention the jury will give special consideration to the suitability of the designs to the climatic conditions and local traditions of the geographical regions in whcih they were built.

"Prize winning designs will be published, and designs winning honorable mention will also be published at the discretion of Better Homes in America. Any publication of the designs which are awarded medals or honorable mention will be copyrighted and due prominence will be given to the name and address of the designer, with the statement that the design is his private property."

* * *

Better Homes in America, which sponsors this annual competition, is an educational institution, nation-wide in its activity, which renders a public service by directing attention to the various methods of home improvement and to the encouraging and strengthening of a wholesome family life. The building of a good house or the remodeling of an old one to make it livable, comfortable and attractive is an economic asset to the community as well as to the family that owns it. Better Homes in America has been established to:

1. Provide citizens with a knowledge of the best standards of home building, home furnishing and equipment, particularly those who have moderate or small incomes.

2. Encourage families to study their own housing needs and to plan, build, equip and furnish houses in accordance with these needs.

3. Disseminate information on home ownership, thrift for home ownership, methods of financing, and to acquaint families with the values and benefits that may be derived from owning a home.

4. Promote and encourage the building of single-family houses.

5. Acquaint families with the best methods of remodeling, reconditioning and the renovating of old houses and the improvement of the home grounds.

6. Supply all knowledge possible on the elimination of drudgery and waste in household operations and the fundamental principles of household management.

7. Acquaint families with the information that has been obtained on homemaking and encourage home music, home reading, home recreation and character building.

8. Encourage schools to establish courses of instruction in all phases of housing and home improvement.

9. Make each community "housing conscious" in order that home improvement campaigns may be organized and all substandard housing eventually eradicated.

MODERNISM DEFINED

C. Grant LaFarge, F.A.I.A., New York, speaking on "Modernism in Architecture" was the star of the Chicago Chapter, A.I.A.'s February meeting. More than a hundred members and guests assembled to hear Mr. LaFarge, whose paper, abounding in eloquent periods, was preceded by a few pictures on the screen meant to illustrate the address to follow. The first picture shown was that of the pre-historic bison painted on the walls of a Pyrenean cave, discovered in recent years. In showing this picture Mr. LaFarge said, "This I conceive to be modernism."

Irving K. Pond, F.A.I.A., held the members of the Chicago Literary Club spellbound on February 27 with the reading of his paper "What is Modern Architecture?" Beginning with the philosophy of the Greeks and its reflex in art and architecture, the spirit of Athene pervading and finding expression in the finest of Greek sculpture, he carried his listeners down through the ages to what is heralded today as the "glass house," and the Dymaxion house built on a hollow tree trunk and set from a swinging scaffold in segments joined to form a round or polygonal cake, freed from natural air currents, with inflated floors and all the other jinks. In criticism of contemporaneous manifestations that are forced more like stunts rather than thoughtful, logical development, Mr. Pond said of such work, "A modernism that is not modern, contemporaneity that is not contemporaneous."

Photo by Hiller

RESIDENCE OF C. B. PIPER, PASADENA, CALIFORNIA
ROBERT H. AINSWORTH, ARCHITECT

A HILLSIDE HOME IN PASADENA

by
JAMES R. FERGUSON

THE site of this lovely Pasadena residence was chosen largely because of its attractive, unobstructed view of the mountains. The property is owned by Clarence B. Piper and faces on two streets with an approximate difference in levels of thirty feet in a depth of lot of three hundred feet. This somewhat extreme slope to the east, combined with the problem of filled ground, made it doubly desirable to dig as deeply as possible and take advantage of the excavated areas. This was done by placing the garage, boiler rooms, etc., on the sub-basement levels, with maid's quarters, laundry room, amusement room, office and general utility rooms at the basement level. Each floor level was provided with broad, planted terraces adjoining, all held in place by high concrete retaining walls.

The east, south and north exposures being the desirable ones in the order mentioned, the main rooms for all floors were grouped to this arrangement. Rooms which of necessity had west or less desirable exposure or outlook, were planned so that north and south openings could also be provided. In this manner was the general scheme determined by the site and its surroundings.

At this point in the planning, the detailed family requirements began to enter into the general scheme. The living room, amusement room and dining room must be spacious to provide for a growing family of five children and their guests. The reception hall must be of proper size to allow for entertaining. The dining room must have the early morning sun, as a breakfast room would not meet the family needs. The library must be centrally placed, and the guest quarters so located on the main floor as to provide seclusion from the routine family activities if desired. In this manner, the main first floor rooms took their respective places, with the subordinate ones grouped about them.

On the second floor are five bed rooms and three baths, three separate rooms and baths for each of the daughters and a large double room and bath for the two sons. The master bed room and bath are in the north east wing. A generous open sleeping porch is built over the porte cochere, fitted with Venetian blinds and roll awnings and centrally located for all who might wish to sleep in the open. Sewing room, linen room and numerous roomy closets complete the second floor layout.

The construction of the house is wood frame and brick veneer, with the exception of the basement and sub-basement which are of reinforced concrete. All brick veneer and such minor portions as were plastered, are painted a light shade of apricot, with quoins and trim slightly darker. The caste stone entrance and trim are of a very soft shade of green, as are also the sash and shutters. The roof is made up of variegated shades of Italian tile, ranging from dark reds to gun metal. All exterior sash and doors are steel.

Interior walls are largely soft textured, parchment colored plaster, except the re-

RESIDENCE OF C. B. PIPER, PASADENA, CALIFORNIA
Robert H. Ainsworth, Architect

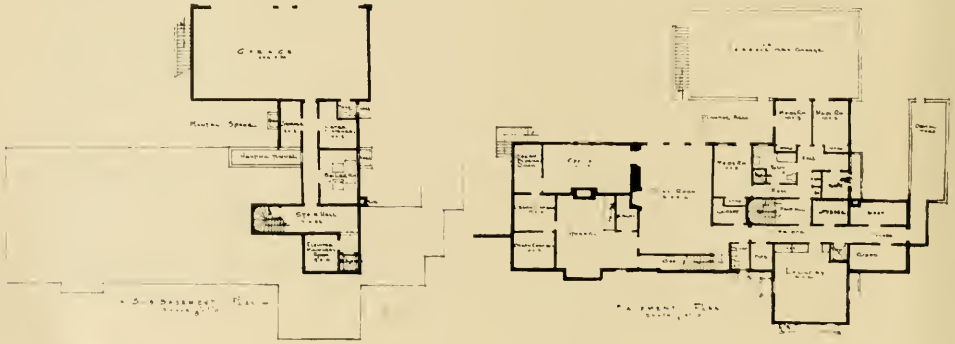
ception hall and library which are paneled in oak and given a light stain and waxed.

All wood trim throughout the main rooms of the first floor are of oak similar to the library, except the living room ceiling which is of California redwood, hand-stenciled in soft colors.

The second floor, except for the stair hall where the oak trim is carried through, is finished in white wood and painted of soft ivory throughout.

In summary, the major consideration was to take a house of considerable magnitude, and treat it in such manner that it became thoroughly domestic and inviting, to the entire exclusion of any feeling of austerity or ostentation.

No description of this home, however



PLANS, RESIDENCE OF C. B. PIPER, PASADENA, CALIFORNIA
Robert H. Ainsworth, Architect

brief, could be fairly set down without mention of the mechanical equipment. It was in this respect that the owner was most exacting in his requirements, and considerable planning was done to achieve the desired results.

The heating plant and control were considered of utmost importance. Two gas-fired Bryant boilers were used in connection with a low pressure steam system, one operating on a 200 gallon domestic hot water storage tank, and also providing heat for the service portions, the other boiler heating the remainder of the house. This system allows for a flexibility and economy of operation in the event the main portion of the building is not in use for any extended period of time. Incidentally, the boilers are interchangeable for use in operating the domestic hot water system, so that one boiler need not necessarily be in use throughout the entire year and the other operating for only a few months.

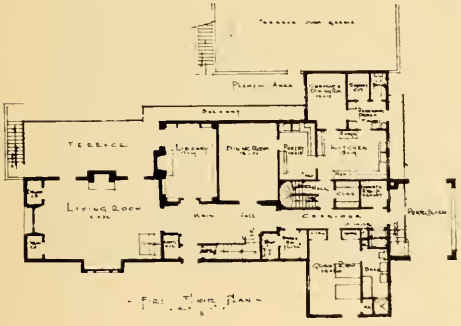
The entire gas heating system is operated on thermostats centrally located throughout the house, which in turn are regulated by time clocks. This provides a uniform temperature for all rooms, both day and night. Night temperatures are arranged at possibly 55 degrees between 11 P. M. and 6 A. M. with the balance of the time at 72 degrees or, in fact, any predetermined temperature, no other regulation being required than to wind the time clock at weekly intervals. The heating registers are ingeniously recessed in the walls with small grilled openings for circulation.

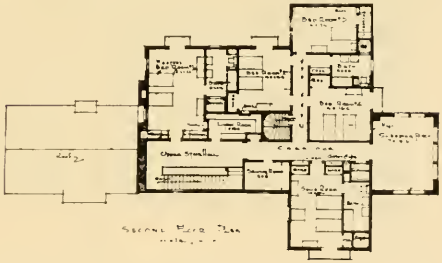
Fluctuating water pressure was something of a problem, and this was overcome by the installation of a large auxiliary storage tank with pressure pump provision for emergency cases.

Water softening is assured at all times without lapse by the installation of dual water softeners, and storage space for a six months supply of salt. Elevator service was supplied for sub-basement or garage level to the second floor.

Last, but far from the least, was the installation of the pipe organ. The console was installed in the living room, with sound chamber openings covered with wall hangings,—an installation which, when completed, fully justified any and all of its exacting considerations.

BOILER ROOM, RESIDENCE OF C. B. PIPER
Robert H. Ainsworth, Architect





PLANS, RESIDENCE OF C. B. PIPER, PASADENA, CALIFORNIA
Robert H. Ainsworth, Architect

Photo by Hiller

RESIDENCE OF C. B. PIPER, PASADENA, CALIFORNIA
ROBERT H. AINSWORTH, ARCHITECT

LANDSCAPING THE SMALL HOME

by
L. DEMING TILTON F.A.S.L. A

THE large estate commands the professional landscape architect. The small home grounds are rarely touched by trained landscape designers.

Yet the small place is a challenge to everyone who owns one—and the legion of small home owners grows every year. The restricted size, the few elements that make up the composition, the limited funds for construction and maintenance all seem to make the arrangement of such a small place a simple problem. Perhaps it is, but the mistakes made plainly show that many whose good impulses have led them to attack this problem do not know how to analyze it properly and solve it with advantage and profit to themselves.

First consider briefly some of the common landscape faults seen throughout all the small home districts.

Lot too small—A size 12 house crowded on to a size 7 lot. This is a common cause of premature depreciation and loss of value.

Driveways obtrusive and ugly—A necessary evil put on display, glaring white or brilliant red, straight to the garage, edged with curbs, accented by a border of petunias.

Walks and Steps Dominating the Picture—The photographs of small homes are mostly front walk and steps.

Garage Doors Yawning—A permanent display of rags and cans visible to all passers-by.

Laundry hung out for public inspection—Showing poor planning of service features.

Shrubbery overgrown in front but no Screens around the Back Yard.

Foundations resting on Beds of Brittle Geraniums or the Spikes of Iris or Tulip—The house seems to be floating on a lovely iridescent bubble.

Picture Windows that Look out upon Disorderly back Yards or vistas festooned with Poles and Wires—The small home frequently suffers because its Neighborhood is badly planned.

This critical analysis, while not by any means conclusive, does show that the small home landscape problem is not easily solved. There is an appalling lot of servile copying. There is evidence in quantity that few see the small place as a whole, even though it is small. Yet every satisfactory result in developing a small place comes from carefully planning it as a complete domestic unit, from corner to corner, from front to back.

It is the purpose of this and the next article to outline very briefly a simple method of solving this type of landscape problem. The scheme is the thing. The basic foundation pattern is of first importance. Every single plant or tree or shrub that one loves shows to better advantage if it is properly placed in a composition that has been thoughtfully worked out. Every dollar spent is put where it produces maximum returns if it goes for the carrying out of a systematic landscape plan.

THE LOT

The level lot, the one just like a thousand others — 50 feet wide by 120 feet deep—is the most difficult to manage. Its limitations compel the owner to do many things he may not want to do.

But still variations of the common pattern are possible.

The house does not have to be put on a line with all others.

The garage does not have to be at the side, in the back yard.

The drive can be a forecourt, walled in, with trees overhanging the wall.

The service elements, wood pile, garbage pail, drying yard, trash burner, can be put out of sight completely on even the smallest and ordinary flat city lot.

But in the last analysis one must admit that a lot having one or more of the following qualities does lend itself to more distinctive landscape treatment. And such lots will have higher value and sell more readily when developed with taste and ingenuity. Therefore, choose a lot if possible:

1.—Wider than 50 feet, so that it will comfortably accommodate a house built with long sides parallel to the street. A 60-foot lot is the standard small lot for California. An 80-foot lot is best for the enjoyment of the sunshine, the views, the circulation of the clean, refreshing air of this country. An acre lot on a gentle slope is ideal.

2.—Situated on a hill, of odd shape, having a barranca or water course through it and a few rocks and trees to build around. On a hillside, the lower side of a street is generally best. In the subdivision of hilly land in Santa Barbara the owners and engineers have butchered hundreds of acres and made good lots hard to find by trying to follow the same methods in laying out streets that they follow on flat land.

3.—Properly restricted. Restrictions make values, prevent losses.

4.—With improvements in or paid for. Watch out for the special assessment promoter. Extra, unexpected taxes deprive you of garden making funds. But a lot fully equipped, the expenses of paving, sewers, water, gas, etc., all covered in the purchase price.

The home-owners who have lots that meet the above specifications are fortunate indeed. If they manage these properties well, every dollar spent upon them is invested in a security unmatched by any stocks or bonds issued in America.

The House

The house and its landscape must grow together. The whole place must function as an organic unit. To build a small home that will do this requires planning. What are the steps?

First—Fit the house to the site. Arrange rooms to take advantage of views. Put in doors that will open on to terraces or enclosed patios or gardens. Place service elements of house next garage and driveway. Put bedrooms on quiet side. Giving dining room a vista into small colorful garden.

Don't put in a picture window and then build the garage in front of it.

Don't build as if the grounds are never to be sat in or walked in and are only to be reached by going out the front door.

Second—Design the house so that all the elements of the surrounding landscape may be directly and logically tied to it. This means that doors, windows, terraces, patios, steps and similar features should be arranged and located to permit axial lines to be drawn through them and the principal features of the gardens. Even in the most informal, naturalistic type of garden there is need for an occasional bit of evidence that the house, which is an angular, artificial thing at best, has been designed to fit the garden.

The architects are dreadful sinners in this matter. They design some of the most expensive homes with complete indifference to their surroundings. The landscape architect, called in as an after thought to consolidate the dwelling and its plot in a harmonious composition, is in trouble from the moment of his arrival. Every door, every window, every terrace of an otherwise beautiful building, is found to be askew, off line or improperly proportioned to fit the kind of a garden pattern demanded by the style of the house or the shape of the plot. It is small wonder that many architects consider their landscape colleagues inefficient and inadequately trained. Some of the problems set

before them by architects are insoluble by mortal man!

Arrangement of Grounds

Before anything is done toward building either house or gardens, the site must be analyzed somewhat as follows:

Public Areas — the front yard, the side yards, the portions of rear yard exposed to view.

To what extent can the public be allowed to intrude with its searching gaze into our domain?

Shall the front yard be small or large?

Shall it be open, to give a setting for the house, or enclosed by walls, fences or border planting?

Is it desirable to close in the side and rear yards, or shall they be left open?

Service Areas—including driveway, garage court, service yard clothes drying area, childrens playground, trash and rubbish receptacles and the like.

There is no established formula for the placement of these essential utilitarian features of the home. Every place would be better if they all—except the children's own spot —could be abolished entirely.

But the best that can be done is to put them out of sight, to make them as inconspicuous and as inoffensive as possible, without impairing their serviceability and functioning.

Drives are probably the most obtrusive and least tractable of all the service elements. What can be done to suppress them?

In some small places they clearly dominate the whole landscape. Half the yard seems to be covered with oil-stained concrete.

Some devices used to lessen the violent assault of the motor driveway upon the eyes are as follows:

Narrow tracks for wheels, often slightly grooved or with a small curb on either outside or inside with lawn or gravel between.

Pavement in natural flagstone of soft color laid on concrete where wheels come.

Pavement in pattern, its color softened by ochre or lampblack and green mixed.

Gravel, mixed with oil or asphaltum, lined with small flat stones on edge or by a flagstone border.

Brick, laid on concrete base under wheels, with trim edging of stone or brick.

The most common weakness of the ordinary driveway is its alignment. A perfectly straight, concrete pavement on a small lot is permanent and easy to use, one must admit, but it leads the eye directly back to what is usually the worst part of the place from the standpoint of appearances.

The cure for this is a curve, not a little ineffective wiggle, but a change in direction equal at least to the width of the drive itself. This offsets the front and back sections of the driveway and makes possible the planting of a screen to block the direct straight view to the rear.

In order to function perfectly, every garage court must be studied and dimensioned carefully for the operations of the larger cars. Many homes have been built with drives that work all right for Fords, the car owned by the builder, but do not work for Buicks or Cadillacs. In fact some are so poorly designed that delivery boys in Dodge trucks cannot get out of them without three shifts and a shameful use of the native tongue.

It is not impossible for the small matter of a poorly arranged turn-around to defeat the sale at a good price of an otherwise attractive place. Make all courts and turnarounds with a radii of 30 feet or more. All the larger cars have turning diameters around 50 or 55 feet.

Walks are subject to the same objections as driveways. The difference is only in scale. There is not one small home entrance walk in twenty—or it may be a hundred—that is outstanding in design, surface treatment or construction.

If the walk is straight it needs the utmost attention — use brick or tile, concrete in color, with pattern joints carefully detailed. Its width should be proportioned to the house or terrace to which it leads, not to the number of persons likely to use it at one time.

If the walk is curved, let the curves be gently sweeping, laid out with an eye to their appearance on the ground. Some curving walks and roads designed on paper with beautiful flowing lines become

positively ugly and ungraceful when actually built on a sloping or irregular terrain. Lay a heavy rope or hose on the surface or set numerous small stakes to find the best line for a curving walk.

Private Areas. Very little will be said of these here. Their arrangement and furnishings will be the subject of another story.

It must be remembered that a man's home, notwithstanding its size, is today still his castle. He is not subject to attacks by marauding raiders as in ancient days, but his castle must nevertheless be built to withstand assaults of modern variety. Noise, fumes, dust, vibrations, prying eyes of unknown neighbors, invasion by high-pressure salesmen, prowlers and vagrants. The small home must have defenses against these if it would be a place of comfort and delight.

The old-fashioned front porch, after a terrific struggle lasting some twenty years, is about to expire and disappear from the contemporary scene. Who wants one now? In the horse and buggy days they were usable. A family of ten informally distributed over a front porch in rockers and on steps and railings could carry on a revealing neighborly conversation with another family of eight driving past in a surrey in the cool of the evening. Today one vice president of the bank can barely recognize another whizzing by in his car.

Just as the front porch has fallen into disuse and faded away, so other outgrown and useless features of the small home will disappear. The home is turning its back upon the highway and city street. It is retreating from the pavement and its noise, its rumble-bumble, its fumes, its hazards, its thin line of hitch-hikers and homeless men. Families have rarely found it pleasant to live down by the railroad tracks and most men build as far away from them as possible. Yet the modern motor highway and many city streets are today worse neighbors than any double-tracked railroad.

These statements may seem to have little relevancy to the problem under discussion, but it will be found upon further analysis that conditions such as have been briefly referred to really determine the form and character of the small home place. Private areas are increasingly necessary. Their popularity is deserved. Closed in bits of yard, patios, walled gardens, these are merely reflections of the kind of busy world we live in.

The small home of the future will probably share very little with the public on the street. It will in some instances be built right on the street, with a thick wall in front. Or, it may be built far toward the back of the lot, with garage and motor court on the street.

The borders of the lot, except where there are views to be framed, will be planted with a thick screen of trees and shrubs or a hedge. The lot will have privacy, for there is a subtle desire growing in men to escape, to get away from the incessant clatter and jangle of a highly mechanical world. The roof apartment, the pent house, the popularity of yachts, the interest in the desert, and wild mountain country are all expressions of this longing. But few realize how successfully it can be achieved even on a small place.

The small home that will satisfy in years to come will have a simple, smooth-functioning house with grounds intimately related to it and useful in every part. There will be neatness, trimness, an orderly beauty about the place due to the fact that it has been planned as a whole and built as a complete living establishment. And perhaps the most important feature of the modern small home will be the quiet, secluded private gardens. These spots are extremely intriguing and offer many opportunities for the display of skill and taste in landscape design.

IT HAS HAPPENED ONCE MORE

by
HOMER M. HADLEY
Regional Structural Engineer ★

IN customary sudden instantaneous manner and wholly without warning an earthquake occurred in the Los Angeles-Long Beach plain at 5:55 P. M. March 10, 1933. A minute earlier everything was proceeding in its normal usual way; a minute later found many lives crushed out, hundreds of people injured by falling wreckage, and a vast, tremendous amount of damage done to buildings over a considerable area which included the cities of Long Beach, Compton, Huntington Park, Downey, Santa Ana and others. That most basic, fundamental thing that we know in our lives: the firm, solid, substantial, unyielding earth, had jarred and jotted and shaken in a crazy fashion for a quarter of a minute; then it resumed its firm, steady, solid, unyielding nature on which we are wont to rely with the fullest confidence, and except for the occasional after-shocks, the earthquake was ended.

There was nothing particularly new or novel to be seen in its effects upon buildings. What cannot be done in one place cannot be done in another. The scene and setting may change, but impossibilities remain impossibilities. The predominatingly horizontal movement in the earthquake applies irresistible horizontal forces to the foundations of buildings and causes them to move also, jerkily, forward and back and sideways, just as the ground does. Consequently heavy masonry walls and gables and towers and architectural ornaments, laid up in weak chalky mortar and inadequately anchored to inadequate supports, crash down and are overthrown and cannot be kept in place. Consequently parapets on street fronts, further weakened by flashing inturned into mortar joints, cannot but fall into the street, whether human beings be beneath them or not. Consequently our precious American skeleton-framed filler-wall buildings cannot but rack and sway and do themselves damage, quite regardless of their owners' ability to pay or of their architects' embarrassment or mortification. Earthquakes are earthquakes; impossibilities are impossibilities. As the wise Francis Bacon declared: "The only way to command nature is to obey her."

Following an earthquake it is customary there should be numerous declarations that "good construction" and "honest workmanship" behaved splendidly and showed their worth. Also there are expressions of indignation at "jerry building", the true character of which has been so strikingly revealed. True and virtuous are such opinions, yet also there must be recognition of the fact that in an earthquake buildings do actually move sideways, horizontally, with the ground, and that they move suddenly, jerkily. *They have to be adequately tied together in all their parts.*

Implicit in this last statement are a number of requirements. There is the requirement of strong mortar for masonry. There is the requirement of strong anchorage to

Editor's Note—Mr. Hadley visited the scene of the Tokio earthquake in Japan soon after it occurred and made an extensive report to his company with reference to the types of buildings that best resisted the temblor. Again he investigated the damage wrought by the Santa Barbara 'quake in June, 1925, and he was in Los Angeles at the time of the recent upheaval there. He therefore is in a position to write intelligently on the subject and offer valuable advise.

strong supports. There is the requirement of thorough bracing and positive connection between structural members and parts. There is the requirement of so building that the completed structure will constitute a single unit or whole and will move bodily without racking and whipping itself to pieces.

It may be said that the above conditions are but generalities and involve no specific quantitative or qualitative measurements. Such is indeed so, yet to a general case only general conditions can be applicable. The earthquake itself is a sudden brief thing that comes terribly and then is gone —for who knows how long? Who knows in advance the direction or directions of its movement or the intensity of power it will display? We are wise concerning it only after it is past.

But none the less the damage that is done by earthquakes is of a very consistent, uniform character. What has happened to buildings and to their occupants in Southern California has happened in other cities over and over again in the past and will happen over and over again in the future until such time as building is brought into a true structural conformity with the loads to which it is subject. After that, damage done by earthquakes will be slight and inconsequential. We will command nature by obeying her. Until we do that we have no reason to think we are receiving aught but the impersonal inevitable consequences of our own mistakes and short-sightedness when a disaster of this character occurs. One thing is everlastingly true: it is impossible to deal falsely and dishonestly with nature.

PEN SKETCH BY EDWIN H. SNYDER

AGAIN—THE ARCHITECT AND THE SMALL HOUSE SERVICE BUREAU

by
B. C. GREENGARD
in Bulletin of Illinois
Society of Architects

THE Architects' Small House Service Bureau, (generally referred to as the "Bureau," for short), has been subject during the past year to much discussion and criticism. This discussion began prior to the 1932 convention of the American Institute of Architects, was carried on in the architectural press and reached its climax at the convention when those who object to the activities of the Bureau had their inning.

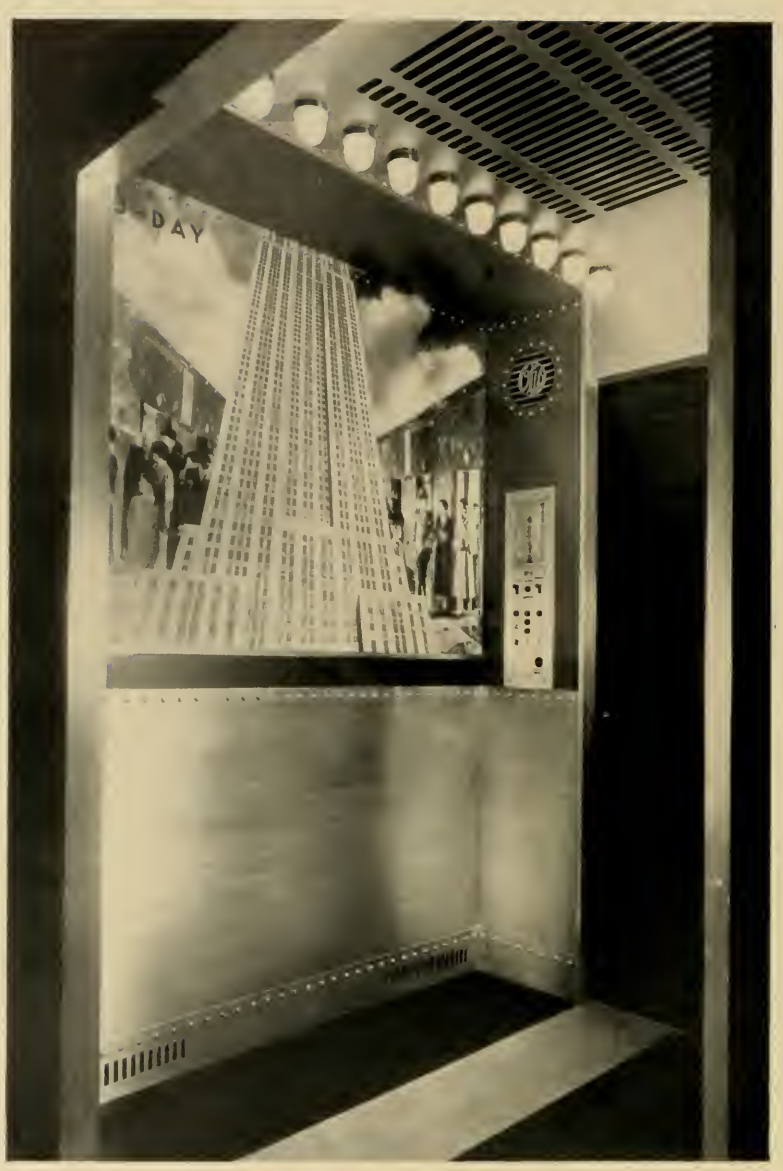
Objections to the Bureau are chiefly concerned with its activity of selling plans, which tends to compete with the practice of individual architects. This charge against the Bureau in reality applies to all stock plans, of which many varieties are available from various sources. From the architects' point of view, stock plans represent an evil which he is powerless to eliminate. He has no control over this matter except where the activities of the Bureau are concerned, which at bottom represents an effort by architects to establish contacts with a large group of home owners not previously reached. As a matter of fact, the possibilties of the Bureau are such as to make it an effective agency in the interest of architects as well as the public, which the profession may develop to advantage.

Stanley Parker, president of the Bureau, defines the aim back of the movement as "an organized effort on the part of architects to exert influence for the improvement of the small home." Briefly, it had its inception immediately after the World War, when countless small houses were being built by carpenters and contractors from the crudest sort of stock plans, with architects hopelessly out of the picture. A group of architects in the Middle West recognized the situation and proceeded to produce a series of stock plans for small homes more complete and more architectural in character than those previously available, creating an organization for their distribution known as the Architects' Small House Service Bureau.

The sincerity of its organizers could not be doubted. They hoped to reach out where architects were not available, or where the value of architectural service was not understood. Not only did they believe that their efforts would result in bettering the design and construction of the small home, but that the contacts made would result in the wider use of architectural service. A.I.A. recognized the high-mindedness of the movement and readily endorsed the idea back of it, as did also the United States Department of Commerce. The Institute undertook to appoint the majority of the board of directors of the Bureau, but it must be noted that beyond that it assumed no more or less responsibility for the services of the Bureau than it does for the services of individual architects who are members of the Institute.

From the start there were objections and the objector was the small voice of the less favorably situated architect, readily

[Please turn to Page 49]



MURALS IN ELEVATOR CARS GIVE PASSENGERS A NEW PERSPECTIVE OF ELEVATOR'S IMPORTANCE AS A MEANS OF RAPID AND COMFORTABLE TRANSPORTATION

PHOTOGRAPHIC MURALS BY RITTASE ARE FEATURED IN THE SKY-RIDE ELEVATOR CARS AT THE CHICAGO CENTURY OF PROGRESS EXPOSITION (Text on page 50)

WARNER BROS. THEATER, HUNTINGTON PARK, CALIFORNIA
Building is of reinforced concrete and was undamaged by the earthquake of March 10th, 1933. Signs in front announce auditorium safe for occupancy by order of Municipal Building Department. Photograph taken after the quake.

WOODROW WILSON HIGH SCHOOL, LONG BEACH, CALIFORNIA
Reinforced concrete construction (except gymnasium which is not shown in the picture). Photograph taken after the earthquake of March 10th, 1933.

PLANS FOR A HOTEL ON AN ECCENTRIC LOT

The Graphic Side of a Great Architect's Accomplishments

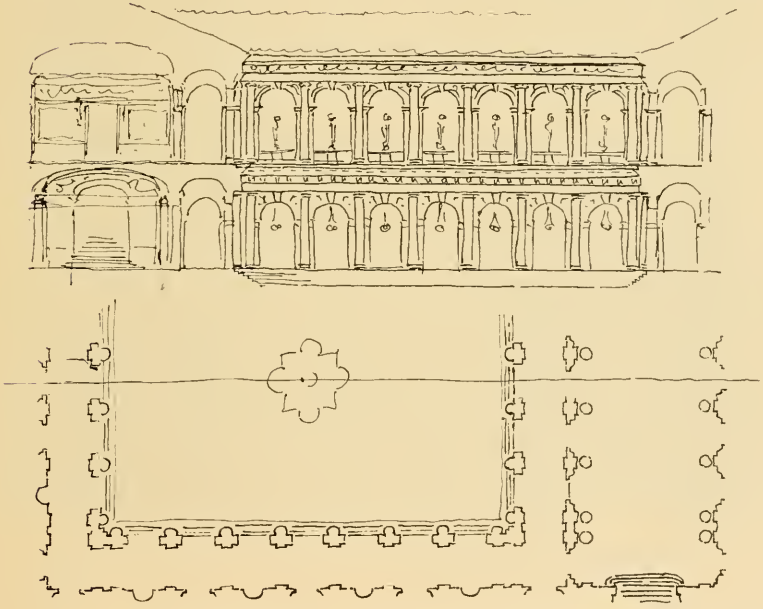
In this portfolio is presented a series of drawings, including major projects, made at l'Ecole des Beaux Arts, by John Galen Howard, late supervising architect and head of the School of Architecture, University of California.

Next month's series will include foreign sketches made during Mr. Howard's student days in France.

Republication prohibited except by special permission of Mrs. John Galen Howard.

'L ECOLE DE MEDECINE, PARIS; LEON GINAIN, ARCHITECT
MEASURED DRAWING BY JOHN GALEN HOWARD

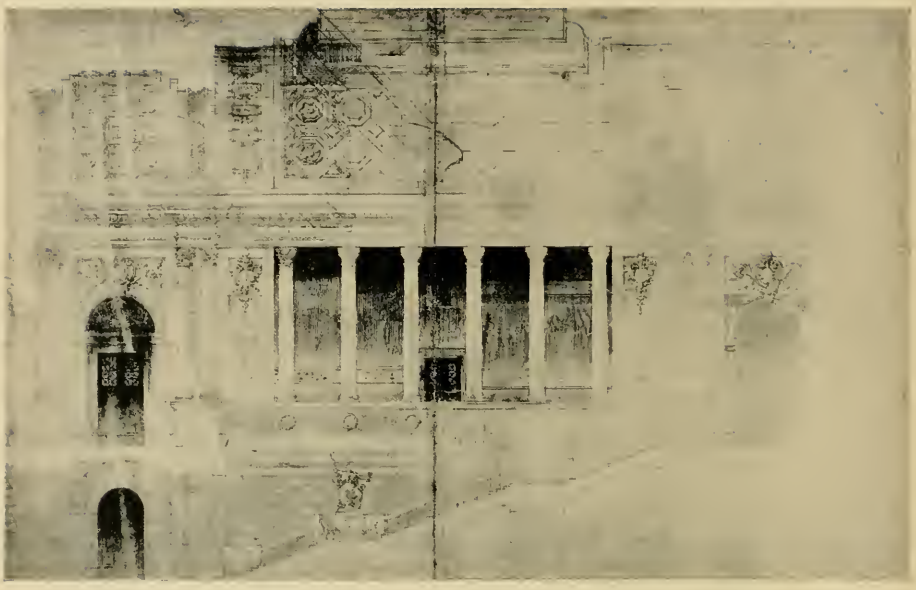
"AN ARCADED COURT," PRINCIPAL SECTION PROJET, 'L ECOLE DES BEAUX ARTS



"AN ARCADED COURT," PRELIMINARY SKETCH FOR ABOVE PROJET

DETAIL, "AN ARCADED COURT," PROJET 'L ECOLE DES BEAUX ARTS

GRAND STAIRCASE, CROSS SECTION, L'ECOLE DES BEAUX ARTS
MEDAL PROJET



GRAND STAIRCASE, L'ECOLE DES BEAUX ARTS, MEDAL PROJET

VICISSITUDES OF A YOUNG ARCHITECT

by
ELMER GREY, F. A. I. A.

Sixth of a Series of Reminiscent Sketches of Early Architectural Practice of the Author

THE first few days out of San Francisco our trip was much as any other ocean trip might be. The sea was tumultuous and the air reminiscent of the chill of the north. Frequent steamers or sailing craft hove in sight and once a full-rigged ship was passed so closely that all the details of it could plainly be seen. Its sails were full with a fresh wind and out upon one of the spars part of the crew were busily engaged in taking a reef. It brought back to my mind all the romance surrounding those noble craft that are now fast becoming visions of the past.

Further south the steamer left the well-traveled routes and became the only human carrier in vast stretches of lonely sea. For days not a sail would be seen, while strange birds appeared in the air and schools of flying fish, unlike those of northern waters and with brilliant scarlet wings, told of our having reached domains that lay way beyond those that are familiar to most ocean travelers.

I had plenty of time to think over the serious possibilities which might accrue from the startling confession which Mrs. Jones had made me. Before starting I had pictured the trip as being in all probability an uneventful one, and here already I had been thrust into a drama which contained

A NATIVE HUT IN
THE SOUTH SEA ISLANDS

within itself all the possibilities of a tragedy! Who could tell whether she would or would not carry out her threat! If she did, and I had done nothing about the information she had imparted to me, would I not be partially responsible? How about the captain and the commission handed him by his friend the rear-admiral? The captain had been very kind to me when we might become interested in the islands in a business way and thus eventually stimulate its commerce. Those at the captain's table were very congenial to all appearances and the meal times were like so many happy parties for which the guests had been especially selected. If I divulged to the captain what I knew I felt that in all probability he would immediately place a watch over

SKETCH FOR A BUNGALOW ON MT. WILSON FOR DR. GEORGE HALE
Elmer Grey, Architect

had our talk in his stateroom; for one thing he had asked me whether my own room was comfortable and had even gone so far as to offer to share his with me (in which there was an extra bed) in case mine proved in any way undesirable. So it made me feel very kindly disposed toward him and very strongly as though I ought to inform him.

But the situation was much involved. The "Mariposa" had been fitted up like a private yacht and efforts had been made to secure as passengers influential people who Mrs. Jones; and this would be much like throwing a monkey-wrench into the smoothly running machinery of our pleasant social gatherings. So I just could not bring myself to do it. I salved my conscience by thinking that, after all she was just a chance acquaintance—I hadn't anything to do with sending her on this trip—what business was it of mine to interfere! I would let a sleeping dog lie! Still I worried. As day after day passed her mental anguish seemed to increase. Anyone who

was not "in the know" would never have guessed it; but I was in the know!

Suddenly I discovered that there were others on board who also knew! She had confided in a woman from Portland and also in the American consul of Tahiti who was aboard. That changed the situation. Now if anything happened there was danger of their knowledge leaking out and all three of us would be censured. Still when we discussed it we decided to let matters drift. The others did not seem to think there was any immediate danger.

One morning very early Tahiti was to be reached. We all arose early to catch the first glimpse of it. Its jagged mountains were great purple masses silhouetted against a brilliant sunrise! All speculated upon what the island and its people upon closer inspection would be like. As was intimated in a previous chapter my love of beauty did extend beyond the straight lines of architecture and now it began to revolve fiercely in the realm of curves and rounded forms by giving me visions of what to expect on shore! I knew that Tahiti was much less civilized than Hawaii and I imagined among other things that beautiful damsels could be found there walking about unadorned, their splendid bosoms suggesting unabashed the generous fecundity of nature! But alas! the missionaries had inculcated different ideas and the throngs of females who came down to the harbor to witness the arrival of our steamer were without exception garbed in long white mother-hubbards!

The days on the island were uneventful. What was to be seen was very interesting because it all bespoke the Tropics and a world very different from our own. Life was most typical outside the town, where the natives lived in bamboo huts and fished for food or gathered cocoanuts from the palm trees around them. They would scurry up a palm tree with no other aid than a short piece of rope stretched between their feet and catch fish right at their doors. I saw Mrs. Jones two or three times in company with her sister and was surprised to notice each time that they had with them from the steamer, a young chap called Joe, a fine-looking husky lad of pleasing personality and much intelligence who was working in the capacity of deck-boy merely as a temporary method of obtaining funds with which to get through college. I had noticed Mrs. Jones having him about her a great deal on board and this made me wonder if their acquaintance might not be growing into an intimacy far more than casual. I stopped at a hotel the first night, but was bothered by mosquitoes and so followed the captain's suggestion and returned to the ship. There I pulled a mattress out on deck and slept among the sailors under the stars.

I lay next to Joe and as it was very warm and we could not get to sleep for some time, I had a good opportunity to try to draw him out. I suggested a swim, but he explained that it was too dangerous in those waters on account of sharks.

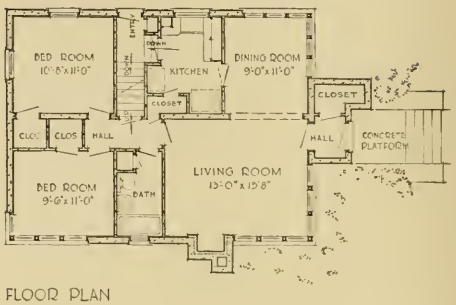
"I wonder if there is not some passenger on this boat in whom you are interested?" I asked.

"I suppose you mean Mrs. Jones," he replied, "Well, I know we've been together a good deal and I do like her immensely. She's a frail little thing and I'd like to have the opportunity to build her up."

I stared up at the stars and wondered what he would think or whether it would change his feeling toward her any if he knew of her unfortunate habit, but I said nothing. It was so warm as we lay there that, even though I had stripped myself of all covering but a sheet, the perspiration trickled off my body as though I were in a Turkish bath.

(To be continued)

HERE is an attractive, low-cost, fireproof, five-room home designed in the modern manner. Although low in first cost, it embodies all the comfort and conveniences of the more pretentious residence. Note sizes of rooms; number and size of closets.



FLOOR PLAN

Masonry Walls Specified

As is customary in the low-cost, fireproof home, walls are designed for concrete masonry; to be finished with Portland cement stucco or Portland cement paint on the exterior.

First floor and roof are to be reinforced concrete—construction that represents an important economy. It carries out the flat-roof effect; makes the house rigid; encloses the most space for the least money.

Affords Long-Time Economy

A concrete platform is specified at the entranceway. Concrete construction also is specified for other parts of the house—the footings, the foundation walls, the sills and lintels for windows and door openings, and for the chimney. This construction provides for low maintenance, long-time economy.

In this house, a full basement is included. Built with concrete floor and concrete masonry foundation walls, it provides space for a recreation room, storage and other purposes.

Low Construction Cost

Four thousand two hundred dollars is the estimated construction cost for this fireproof concrete home — a figure that will vary somewhat according to location.

One cannot fail to notice that this suggested design has many outstanding features. A fireplace is included in the living room. This and other rooms are fairly large. Built-in equipment can be installed in the kitchen. And the major rooms, being well lighted and well equipped with closet space, will please those who dwell within this home.

It is, indeed, a design which offers one his money's worth — a real home at low cost.

ENGINEERING AND BUILDING CONSTRUCTION

STRUCTURAL ENGINEERS PLEASED WITH NEW CODE OF STANDARD PRACTICE

ABOUT one year ago the Structural Engineers Association of Southern California adopted a Code of Standard Practice governing professional structural engineering services. This code sets forth just what a complete set of plans and specifications should cover. It defines such terms as "Supervision, Inspection, Reviewing and Checking of Structural Designs, and Letting and Drafting of Construction Contracts".

During the past year the members of the Association have based their bids on engineering services to be rendered on this Standard Code of Practice, and by suggesting to the architects, contractors and business men desiring engineering services that all comparisons of bids be made on this basis, they have eliminated a great deal of unfair price cutting.

Following is a complete copy of the Code which members say has proven very beneficial to the profession and building industry: (The Structural Engineers Association of Northern California are studying this code for the purpose of broadening its scope and making it apply to general engineering practice.)

SECTION I—GENERAL

A. *The purpose* of this Code is to provide a standard for the professional relations between a Structural Engineer and his client. It is mandatory in all its details upon all members of signatory bodies unless otherwise specifically so stated in a written contract between the parties concerned.

B. *Definitions* of terms as used in this Code.

1. A STRUCTURAL ENGINEER is one who by virtue of proper technical education, training, and experience, and by registration as a Civil Engineer in California, is qualified to render professional services as herein defined.

2. A STRUCTURAL MEMBER is any element of a building, edifice, bridge, tower, frame, or other construction work which transmits stress or carries load other than its own weight.

C. *All structural drawings shall be signed* by the person in responsible charge of the structural design. The signature of a Structural Engineer on any drawing not made by himself or under his supervision shall indicate that the drawing has been completely checked for design and details by the signor.

D. *Structural Engineering Services* are divided into nine classifications as given in Sections II to X inclusive and may consist of part or all of the services as defined in those sections.

SECTION II—CONSULTATION

Consultation shall consist of oral or written discussions with the client regarding any of the following:

1. Types of construction.
2. Methods of construction.
3. Selection and use of materials.
4. Location and arrangement of structural members.
5. Feasible and unfeasible features of architectural design from the structural point of view.

6. Condition of existing structures.
7. Cost of construction.
8. Hazards of the elements.
9. Methods of structural analysis.
10. Sub-surface conditions of site.
11. Any other phase of a structural problem on which the client may seek information and which the Structural Engineer is competent to discuss.

SECTION III—STRUCTURAL DESIGN

A. *Structural design* shall consist of the determination of the materials, size, shape, strength and relative position of structural members.

B. *In making the design the* Structural Engineer shall be governed by the recognized and accepted principles of modern sound engineering practice in addition to the limitations and restrictions of a particular building code.

C. *Proper consideration* shall be given to the effect of continuity and fixity of structural members.

D. *Proper consideration* shall be given to the various possible distributions of live loads.

E. *Foundation design* shall be based on the results of a careful study and evaluation of the resistance of the supporting soils on which the structure is to rest.

F. *The safety of the structure* shall be the major consideration in the design. Economy shall be effected wherever feasible within the limits of the structural and architectural designs.

G. *The Structural Engineer* shall keep an adequate and orderly record of the design computations. This record shall identify the designed members and shall show the assumptions as to applied loads and others factors used in the design.

SECTION IV—STRUCTURAL DRAWINGS

A. *General.*

1. The drawings furnished a client by a Structural Engineer shall illustrate the details of the structure in such a manner that the structural members may be correctly and efficiently installed and erected.

2. The drawings shall be clearly and neatly made to a scale sufficiently large to accurately show the form, location, both horizontally and vertically, the kind of material and the identification marks of all the structural members, together with notes pertaining thereto.

3. It shall be the duty of the Structural Engineer to see that the structural drawings are correlated with those of the Architects and Mechanical Engineers. The location of pipe sleeves, thimbles, hangers, brackets and supports, or of anchors for mechanical equipment and minor architectural trim, need not be shown on the structural drawings unless their exact location bears an important relation to the structural design.

4. A full schedule of all the working unit stresses employed in the design or a reference to the particular building code governing the design, shall appear on the drawings.

5. If designed to resist wind or earthquake forces the assumed intensity of such forces shall be noted on the drawings.

6. In general the structural plans and drawings shall consist of:

a. A foundation plan.
b. A framing plan of each different floor, roof, or framed level.
c. Column details or schedule.
d. Beam details or schedule.
e. Details of penthouse, stair framing, or any other details, schedules or notes necessary to readily and correctly interpret the drawings.

B. *Foundation Drawings.*

In addition to the general conditions of this Section the foundation drawings shall show:

1. The location of property lines and building lines.

2. The location of the columns and walls at the level of the top of the foundation.

3. The location of each pit, sump, or tunnel below the ground floor level.

4. Schedules and details showing:

a. Dimensions of the foundations.
b. The sustained load at the top of each foundation.
c. The location and size of reinforcing steel.
d. Details of grillages.

e. Details of sumps, pits, and tunnels.

5. Notes covering:

a. Assumed soil pressure used in the design and the character of the foundation material.

b. Finished grade outside and adjacent to the structure, and inside the structure where paving is not used.

c. Elevation of floors resting on the soil.

C. *Floor Framing Drawings:*

In addition to the general conditions of this Section the floor framing drawings shall show:

1. The location of the property lines and building lines at the level at which the plan is taken.

2. The location in plan and elevation of every structural member at or near the floor level at which the plan is taken.

3. The location of columns and walls at the elevation at which the plan is taken.

4. The location of each framed opening through the floor.

5. The character and thickness of the floor surfaces.

6. The size, weight, and section of all steel beams.

7. The location, size, and method of anchorage of all structural steel masonry supports.

8. Identification marks for all concrete framing members.

9. Details of structural members in the vicinity of the elevation at which the plan is taken, as required to properly illustrate the work.

10. Schedules, details or notes covering:

a. Typical connections of steel beams.

b. Special connections of steel beams.

c. Rivet and bolt sizes.

d. Concrete slabs, beams and other concrete structural members, including:

(1) Cross sectional dimensions of the members.

(2) Load, shears or reactions.

(3) Maximum bending moments.

(4) Size, location, length and bending for reinforcing bars.

(5) Size and location of stirrups.

D. *Column Schedules or Drawings:*

1. Column schedules or drawings shall show the total calculated load at each story for each column in the structure.

2. Structural steel column schedules or drawings shall show the size, weight, section and length of each tier of each column. All column splices shall be located and their detail fully determined by drawings, schedules or notes. The size, detail and anchorage of each column base or bearing plate shall be shown.

3. Concrete column schedules or drawings shall show the overall size of the rough column, the core size, the number, size and length of the vertical bars, the size and spacing of the ties or spiral reinforcement, and the number, size and length of dowel bars. Special, unusual, or irregular column shapes, and unsymmetrical bar arrangements shall be detailed.

E. *Trusses and Arches:*

1. Trusses and arches shall be so detailed that they may be accurately constructed and erected.

2. The stress diagrams for the complete graphical analysis shall be shown and the force scales indicated.

3. The magnitude and sign of the total stress in each member shall be shown on the drawing.

4. Statically indeterminate trusses and arches shall be accompanied by bending moment diagrams on which the magnitude and sign of the maximum moments shall be shown.

F. *Stairs:*

Each different stair shall be detailed. The details shall include:

a. Number of steps.

b. Rise and run of each flight.

c. Stringer and landing beams.

d. Slab thickness and reinforcement for concrete stairs.

e. Treads and connection details for steel stairs.

G. *Walls:*

1. All reinforced concrete bearing walls and all other walls which carry load other than their own weight shall be shown in sufficient detail, either by

drawings, notes, or schedules, to clearly indicate the material, thickness, height, length, offsets, batter, inclination, reinforcing, and other features important to their stability and necessary for their construction.

2. Non-bearing walls, including partitions and filler walls other than reinforced concrete, need not be shown in detail.

3. Where both architectural and structural plans are prepared for a building, the window and door openings need not be located on the structural drawings unless the walls have been designed as structural members.

4. Lintels over openings in masonry walls may be located by reference to the architectural plans.

SECTION V—STRUCTURAL SPECIFICATIONS

A. *The structural specifications* shall state:

1. The kind and quality of the materials.

2. The testing requirements.

3. The proportions of mixtures.

4. The general methods of fabrication, erection and installation.

5. The requirements governing the protection of the work in place.

6. The preparation and location of surfaces at which concrete pouring may be temporarily stopped and the provisions for continuing the work.

B. *The Structural Engineer* shall not specify any definite make or brand of material or any patented method of construction without the knowledge and consent of his client without a provision for the substitution of satisfactory alternates.

SECTION VI—REVIEW AND CHECK OF STRUCTURAL DESIGN, DRAWINGS AND SPECIFICATIONS

A. *The services* to be rendered under this heading shall vary, depending upon the purpose for which it is desired. This work shall be executed without prejudice or bias as to personnel or materials.

B. *The report* on such a check or review shall clearly differentiate between differences of opinion, if such are stated, and errors of calculation. It shall also state the purpose for which the check has been made, whether the check has been general, detailed in part, completely detailed, for safety only, for compliance with a particular building code, for accuracy of dimensions or for economy of construction.

SECTION VII—SUPERVISION:

Supervision is defined as the intermittent examination of the construction work at critical periods during the building of a structure and the issuance of instructions governing the conduct of the work.

SECTION VIII—INSPECTION:

Inspection of construction work is defined as the complete detailed superintendence of the structural materials and workmanship entering into a structure.

SECTION IX—RESEARCH INVESTIGATION & REPORTS:

Since the services coming under this heading vary in extent and magnitude with the purpose for which they are made, the report shall indicate the degree of thoroughness with which the services have been rendered. Opinions shall be classified as to whether they are based upon judgment, experience, mathematical calculation or reference to other authority.

SECTION X—LETTING & DRAFTING OF CONSTRUCTION CONTRACTS:

A. *The letting* of construction contracts consists of the preparation of bid forms, the selection of bidders, the analysis of bids received and the awarding of the contract.

B. *The drafting* of construction contracts consists, in addition to other items, of a detailed statement of the reciprocal relations between the Owner, Architect and Structural Engineer, the labor to be performed, the materials to be supplied, the time agreed upon for the completion of such work, the responsibility of the Contractor, and the amount and manner in which the Contractor is to be paid for the materials furnished and the labor performed.

C. *The services* of the Structural Engineer shall not include responsibility for the legal phrasing of contracts and bid forms made under his supervision.

AGAIN—THE SMALL HOUSE BUREAU

[Concluded from Page 31]

drowned out by proponents of the Bureau. That was before the present economic crisis settled upon us. Now the picture is somewhat changed.

Normally the attitude of the prosperous architect towards residence work in general and small houses in particular, has been a condescending one. Commissions of that sort were regarded as something of a nuisance, though some architects felt that they were dodging a responsibility by refusing small house work and saw the Bureau as taking the responsibility off their shoulders. These practitioners were kept busy designing bigger and better banks, apartment houses and office buildings. Now our cities are dotted with many of these buildings, silent monuments in receivership, with most of those who helped to build them walking the streets. Now even the most prominent architects are available for modest building projects. With the bulk of construction in the U.S.A. in the present period chiefly confined to single family dwellings, it is small wonder that objections to the Bureau are now generally heard.

Opponents of the Bureau on the score of its competing with private practice, ignore two important points. First, that stock plans of all sorts will continue to be available from many other sources even if the Bureau should be discontinued. Second, that the public, either through ignorance or through false economy, does not usually engage architects for small house work. Clearly, eliminating the Bureau appears futile. Rather does it appear advisable to develop it to greater extent. Bureau designs and plans might be used by architects generally, where specially prepared plans cannot be afforded. This is in line with the suggestions made at last year's A.I.A. convention, namely that Bureau plans be sold by and through architects only.

Carrying out this suggestion would tend to eliminate another objection to the Bureau's work. It is found that its stock plans alone, no matter how excellent, accomplish little towards the improvement of small houses, since houses are generally built from them minus architectural supervision. This and other objections might be met if the Bureau were to be operated so as to bring the individual architect more definitely in contact with the home builder.

Nowadays we hear of many programs to cure our numerous ills and here is one for the Bureau:

First. Let every competent architect willing to cooperate be furnished with a complete file of illustrations of the Bureau's designs.

Second. Central offices of the Bureau's various branches, now in existence throughout the country, might be considered as clearing houses for all inquiries from newspapers and other sources. These might be sent to that member architectural office located nearest to the inquirer.

Third. The architect may regard this inquirer as a possible client. He will then have every opportunity to convince the client of the ultimate economy and value of individual architectural service. Where it is evident that the client cannot pay for complete service, stock plans may be used with the architect aiding in the selection of the plan nearest to the individual requirements, making any necessary revisions, etc. Stock plans as a matter of policy should be sold only where it is agreed to retain the architect for adequate supervision of construction.

If this plan, or one similar could be carried out, the Bureau would be instrumental in bringing a great many more prospective home owners in contact with architects. Furthermore, in connection with its present activity of publishing its designs in numerous newspapers throughout the country, it could enter upon a direct campaign of making better known the nature and value of individual architectural service.

Plainly, the potentialities of the Architects' Small House Service Bureau, in serving the profession as well as the public, are too great to be dismissed without a thorough trial.

MURALS IN ELEVATOR CARS SYMBOLIZE MODERN BUILDING PROGRESS

A RADICALLY different type of elevator car, probably the forerunner of cars of a few years hence, has been designed by the Otis Elevator Company for use in the "Sky Ride" at the Chicago Century of Progress Exposition. This type of car, offering a new departure in elevators, emphasizes the mechanical features of the elevator and makes them an integral part of the design.

Rivets, instead of being hid, are given prominence. The aluminum and steel of which the cars are built are used without any attempt at camouflage. Most striking, however, is the use of photographic murals on two sides of the car. Designed by Rittase, these are symbolical of the progress of construction as made possible by the elevator. These murals are emphasized by bright lacquer bands, of a different color in each of the "Sky Ride's" four cars.

Besides being decorative, the use of photographs in the elevator cars is expected to have a psychological effect. Giving the passengers a picture in perspective to look at ,the new elevators, it is expected, will not have the confining effect that has been one of the disagreeable features of previous cars design. It is believed that architects and building owners will utilize this idea as a means of incorporating the story of their buildings in elevator cars and lobbies.

Apart from the cars themselves, elevators in the "Sky Rides" will show to visitors all the inner workings of modern vertical transportation. At the tops of the two towers there has been provided a birdseye view of an elevator system in actual operation — a view that has never been seen before. Through shatter-proof glass, visitors may look straight down into the elevator hoistways, and watch the cars as they drop rapidly down into space or view them streaking up toward them. All the automatic control equipment, the safety devices and the powerful hoisting machines operating the elevators will also be available for inspection, making it possible for the public to see for the first time what makes an elevator work.

BOULDER CANYON PROJECT

On December 31, the peak of employment was reached by the Six Companies, when 3,882 men were at work. According to Frank T. Crowe, construction superintendent, the number of workmen will gradually decrease from now on. Approximately 4,580 persons are now employed on the entire project.

At the close of 1932 there were 22,000 applications for employment at Hoover Dam on file with Leonard T. Blood, superintendent of the Federal employment bureau office at Las Vegas. On January I a new list to supersede the old one was started and all applicants will have to register again.

ARCHITECT FALCH BUSY

Walter C. Falch, Hearst Building, San Francisco, reports a revival of work in his office, including a two story frame flat building on Douglas Street, south of Market, San Francisco, to cost $10,000, and two frame bungalows to be built in Mill Valley for F. C. Schaeffauer.

ARCHITECT'S WIFE A LECTURER

MRS. CARL F. GOULD of Seattle, wife of the junior partner in the architectural firm of Bebb and Gould, is engaged in delivering a series of illustrated lectures on "The Romantic History of the Northwest." Mrs. Gould is a graduate of Vassar College.

REDWOOD CITY RESIDENCE

Chester H. Treichel, architect, 679 Haddon Road, Oakland, has completed plans for a two story frame and stucco residence at Redwood City for A. Fromme. The estimated cost is $7000.

« « « « With the Architects » » » »

BACK TO OUR FORMER HOME

The business offices and editorial rooms of THE ARCHITECT AND ENGINEER are again on the sixth floor of the Foxcroft Building, Post Street, San Francisco. By returning to its old home, after five years in the Russ Building, the publishers once more enjoy convenient and commodious quarters with the added convenience of a post-office on the ground floor, insuring quick delivery of Building Reports and otherwise adding to the efficiency of the magazine and its allied publications. The old telephone number is retained—EX brook 7182.

OAKMORE HIGHLANDS RESIDENCE

Edwin L. Snyder, architect, 2101 Addison Street, Berkeley, has completed plans for a two story, frame and stucco residence in Oakmore Highlands, Berkeley, for Dr. H. McKay Pier of 2206 Hopkins Street, Berkeley. The house will have ten rooms, three baths and double garage.

The same architect has prepared plans for a one and one-half story Monterey style residence in North Craigmont, Berkeley, for Mr. and Mrs. George Dallas.

H. C. BAUMAN BUSY

New work in the office of H. C. Bauman, 251 Kearny Street, San Francisco, includes a reinforced concrete laundry for J. Libante, to cost $6500; a five story steel frame and concrete apartment building at 2nd and Parnassus Avenues, San Francisco, for E. V. Raisch, to cost $250,000, and a four story frame and stucco apartment building on West Portal Avenue for Mrs. F. Nelson, to cost $40,000.

GOLDEN GATE PARK BUILDING

Bliss and Fairweather, architects, Balboa Building, San Francisco, have prepared plans for a one story concrete, brick and bronze shelter at Golden Gate Park, for an unnamed owner. The approximate cost is $10,000.

ERNEST COXHEAD

Ernest Coxhead, who practiced architecture in California for a number of years in partnership with his brother, under the firm name of Coxhead & Coxhead, and in recent years independently, with offices in the Hearst Building, San Francisco, died at his home in Berkeley, March 27th, following an illness of two weeks.

Mr. Coxhead was born in England and was seventy years of age. He came to the Bay District half a century ago, living in San Francisco until six years ago when he moved to Berkeley. With his brother, Mr. Coxhead designed many of the old time telephone buildings in San Francisco, in addition to churches and residences. He was a member of the Northern California Chapter, A.I.A.

He is survived by two sons and one daughter. They are John Coxhead of Los Angeles, Miss Mary Coxhead, who is engaged in missionary work among the Indians at Alturas, and Ernest Browning Coxhead of this city.

SEATTLE SMALL HOUSE EXHIBIT

An architectural exhibit of medium and small size residences was held during the week of March 13 to 18 at the Bon Marche Department Store, Seattle. The Washington State Chapter, American Institute of Architects, presented arguments why it is cheaper to build with materials at their present low cost than it is to buy used houses on the market. On Monday afternoon, March 13, George Wellington Stoddard, A.I.A., spoke on "Why the Home Builder Should Retain an Architect."

Architects who exhibited plans for residences estimated to cost from $5,000 to $15,000 were: Arthur L. Loveless, Edwin J. Ivey, J. Lister Holmes, Paul Thiry, Lowell V. Casey, Alban A. Shay, L. W. S. Bindon, Keplar B. Johnson, John T. Jacobsen, Kathleen Healey, Donald J. Stewart, Elso B. Diluck and R. Bruce Hopkins.

ENGLISH DWELLING

Kent & Hass, architects, 525 Market Street, San Francisco, have completed plans for a $4500 English residence to be built in Mill Valley for E. H. Hildebrandt.

BRIDGE ARCHITECTS NAMED

Appointment of three architects for the San Francisco-Oakland Bay Bridge was announced recently by Earl Lee Kelly, California state director of public works. The architects are Arthur Brown, Jr. and Timothy L. Pflueger of San Francisco, and John J. Donovan of Oakland.

The appointments had the approval of Governor Rolph and were made as a result of conferences between the San Francisco Art Commission, Director Kelly and Chief Engineer C. H. Purcell.

Arthur Brown, Jr. has been a guiding influence in the maintenance of the architectural beauty of the San Francisco Civic Center. He is architect of the new Federal Building in the Civic Center.

Timothy Pflueger is junior member of the firm of Miller & Pflueger, architects of San Francisco, who designed the Telephone Building, Fox Theater in Oakland, and other notable structures.

John J. Donovan is president of the Northern California Chapter of the American Institute of Architects and was supervising architect for the construction of the Oakland City Hall and architect of the Oakland Auditorium, St. Mary's College, Santa Clara College and many school buildings throughout the state.

In making the appointments Kelly said: "It is our plan that the San Francisco-Oakland Bridge be not only the greatest bridge in the world, but the most beautiful."

ARCHITECTS MOVE

Charles E. Perry has moved from Vallejo to 540 Alcatraz Avenue, Oakland.

F. H. Slocombe has moved to 131 Monte Vista Avenue, Oakland.

Edwin J. Symmes is now located at 2330 Truston Avenue, Bakersfield.

John P. Krempel has moved to 112 West Ninth Street, Los Angeles.

Herman Brookman's new address in Portland, Oregon, is 1130 Glenwood Avenue.

ARCHITECTURAL EXAMINATION

The next examination for a certificate to practice architecture in the State of California will be held June 12, 13, 14 and 15, 1933.

For further particulars, candidates should communicate with the Board office, Room 503, 450 McAllister Street, San Francisco.

HILLSBOROUGH RESIDENCE

W. W. Wurster, architect, 260 California Street, San Francisco, has prepared plans for an English residence at Hillsborough, San Mateo County, for Mr. and Mrs. E. O. McCormick, Jr.

INTERESTING COURT DECISION

Dismissing on technical grounds the application of a Mt. Vernon, N. Y. monument dealer to erect a headstone of modern design in the Colonial graveyard of St. Paul's Church in Eastchester, N. Y., the Supreme Court at White Plains on February 15 upheld, in effect, the rules of the rector and vestrymen. The church officials had objected to the headstone because it did not harmonize with the simple Colonial markers in the cemetery. The church was built in 1665 and regardless of all else its officers should be upheld in their desire to retain that antiquarian sentiment surrounding it. To permit the erection of a single headstone, modern though it might be, that would mar this all too rare harmony of church and its yard, would, in itself be a sacrilege. The litigation was most unusual and the decision of the court, even though it was based upon a technicality of the law, should be heeded by monument makers and dealers.—*Stone.*

TWO SCHOLARSHIPS

Two scholarships of five hundred dollars each are offered in the academic year 1933-34 for special students in the fourth or the fifth year of the course in Architecture at the Massachusetts Institute of Technology. They will be awarded as the result of a competition in design under the direction of the committee on design of the Department of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The competition will be held from May 13 to May 22.

BUILDING "STRESS CAPACITY" SURVEY

A survey to determine the "stress capacity" of San Francisco buildings and looking to the eventual elimination of all but earthquake proof structures, has been under way in San Francisco for two months.

Prof. Charles Derleth, dean of the University of California engineering school and a consulting engineer for the Golden Gate Bridge, undertook the survey at the request of Chief Administration Officer A. J. Cleary.

He will make his findings the basis of a new building ordinance which he will recommend, aiming to abolish all weak or faulty construction.

The southern California earthquake has intensified municipal officials' interest in Prof. Derleth's survey, it is reported.

ARCHITECT VINDICATED

The following letter with reference to the recent suspension of W. E. Coffman, architect, of Sacramento, by the California State Board of Architectural Examiners, is self-explanatory:

Editor THE ARCHITECT AND ENGINEER
Russ Building, San Francisco.
Dear Sir:

"The notice of my suspension appeared in your publication some time past, immediately after the Board's action. This action caused me considerable damage, and more so as the charges were not true and the decision of the court has substantiated this fact.

"I am enclosing a clipping from the local paper, hoping you will print the same. The article appearing in your magazine would help a lot, and I would appreciate your assistance.

"Yours very truly,
"W. E. COFFMAN, *Architect.*"

The article referred to appeared in the Sacramento Union of March 14, and states that Judge John F. Pullen has annulled and set aside an order of the State Board suspending Mr. Coffman for alleged "dishonest practice". The court held that the right of an architect to practice his profession is highly valuable, and cannot be taken away unless charges against him are proved.

EARTHQUAKES DO NOT KILL

"Earthquakes themselves have never killed anyone on the Pacific Coast. Every death has been due to the faulty construction of buildings."

This was the declaration of Ralph Arnold, geologist and expert on quakes, whose home is in Pasadena.

"This was true in San Francisco in 1906, in the Santa Barbara 'quake in 1925, and, from all I can learn, in the Southern California 'quake," he continued. "As we can expect more earthquake shocks in the future, all poor construction should be absolutely prohibited."

Mr. Arnold was sent to New York by the Los Angeles Chamber of Commerce following the Santa Barbara tragedy, to point out that lightning, cyclones and other upsets of nature claimed hundreds of victims every year, while earthquake casualties were universally the fault of man's carelessness.

EUGENE C. PRICE

Eugene C. Price, pioneer architect of The Dalles, Oregon, passed away in Portland late in February, while visiting at the home of his daughter. Mr. Price designed many of the buildings in the Mid-Columbia region and was active in Masonic circles.

PERSONAL

PAUL L. DRAGON and C. R. SCHMIDTS announce the removal of their office from the Mercantile Bank Building, Berkeley, to 3016 Telegraph Ave., in the same city.

I. L. OSGOOD AND R. E. MICHENER have opened an office at 4322 Crenshaw Boulevard, in Leimert Park, Los Angeles. They will specialize in designing dwellings, apartment houses and store buildings. Both Mr. Osgood and Mr. Michener were formerly associated with the architectural firm of Morgan, Walls & Clements.

FREDERICK H. ELY has moved from 316 Otis Building, Santa Ana, to 109 Orange Avenue, Santa Ana.

LANDER W. HODGES, son of Charles Edward Hodges, architect, formerly of San Francisco, now practicing in the East, has opened an office for the practice of law in the Alexander Building, San Francisco.

C. W. HEILBORN, whose attractive sketches of Hollywood were shown in this magazine several months ago, is now residing at 206 Ximeno Avenue, Long Beach. He had just moved there when the earthquake hit the city. Fortunately no serious damage was done to his place and he was not obliged to seek other quarters.

F. FREDERIC AMANDES, formerly with Clausen & Amandes, architects, announces the opening of an office for the practice of architecture at 1879 Eighteenth Avenue, San Francisco. Mr. Amandes would like to receive building material samples and trade catalogs and literature. He is busy on plans for a number of houses, including a Spanish style residence in Burlingame for George Loomes.

PRINCETON PRIZES IN ARCHITECTURE

Two competitive prizes of $800 each, in the School of Architecture, Princeton University, are announced. The purpose of these prizes is to permit men of unusual ability, who desire to complete their professional training to profit by the opportunities offered by the School of Architecture, the Department of Art and Archaeology, and the Graduate School, of Princeton University.

The prizes will be awarded as the result of a competition in design to be held May 20 to May 31. The winners will devote the following school year to the study of advanced architectural design, and such other subjects as they may elect. They are exempt from tutition fees.

Applications to enter the competition for the prizes must be filed on or before April 22; address the Director, School of Architecture, Princeton University, Princeton, New Jersey.

SOUTHERN CALIFORNIA CHAPTER HONOR AWARDS FOR 1933

HONOR Awards for 1933 by the Southern California Chapter, American Institute of Architects, were announced at the architectural exhibit in the museum at Exposition Park, Los Angeles, March 24. Owners, contractors and architects of the various buildings honored were present to receive certificates. Sumner Spaulding, vice-president of the Chapter, presided and made the introductory address in which he complimented the high character of the work.

David J. Witmer, past president of the Chapter, gave a brief review of the custom inaugurated by the Chapter in 1919 of making honor awards that later gained recognition from the American Institute of Architects. He stated this was the seventh list of honor awards made by Southern California Chapter, the last previous one having been made in 1930.

Palmer Sabin, secretary of the Chapter, assisted in the presentation ceremonies.

The jury was composed of Ernest Coxhead of San Francisco, who recently passed away; John Frederic Murphy of Santa Barbara and Wm. Templeton Johnson of San Diego.

Following is the report of the jury and list of honor awards:

Gentlemen: Pursuant to your instructions, your jury on Honor Awards for 1933 has studied carefully the submissions made in various classes, viewed on the ground those selected for further consideration, and presents its report herewith.

In making our final selections for the Honor Awards we viewed personally fifty buildings selected from about one hundred seventy submitted, covering an area all the way from the Pacific Ocean to Claremont, nearly forty miles east of Los Angeles.

We have been impressed not only with the quality of submissions to be reviewed but with the excellence of many of the exhibits We note a fresh touch in design, a free and charming choice in the use of materials, and particularly in residence work, of designs peculiarly appropriate for the conditions of climate and atmosphere of Southern California. It is heartening to find so many fine examples of domestic architecture in which convenience and attractiveness have gone hand in hand to stimulate the fine art of living.

In the planning of commercial, public and semi-public structures we note a gain in fitness and general utility.

The craftsmanship shown has been in some instances of a very high order and has been duly recognized in making the awards. It is regretted that so few submissions have been made for arts allied with architecture.

There is a marked dearth in entries having a community or semi-community function such as city or regional plans, housing groups, hotels, small commercial buildings, apartment houses (1 entry), bridges, viaducts or other structures having relation to civic art.

Because of the limitaitons of classification, buildings were entered in one group which had quite different character and functions. In such instances we felt at liberty to make more than one award in one group.

In closing our report after viewing all of the matter presented for our consideration, we should like to express a note of optimism that in both logic in planning and in treatment of exteriors the architecture of Southern California is making real progress.

Respectfully submitted,
ERNEST COXHEAD,
JOHN FREDERIC MURPHY,
WM. TEMPLETON JOHNSON.

GROUP I. SINGLE DWELLINGS

Sec. A, Single Dwellings, Less than 7 Rooms.
Residence Mr. and Mrs. Bernard Forrest, 612 North Beverly Drive, Beverly Hills; Roland E. Coate, Los Angeles, architect.
Residence Mr. and Mrs. Herbert S. Hicks, 1798 Lourain Road, San Marino; Arthur R. Hutchason, Los Angeles, architect.
Sec. B, Single Dwellings, 7 to 15 Rooms.
Residence Mr. and Mrs. W. W. Fox, 3303 E. Pasquale Ave., Pasadena; R. C. Flewelling, Beverly Hills, architect.
Sec. C Single Dwellings, 15 Rooms or more.
Residence Mr. Malcolm McNaughton, Club View Drive, Holmby Hills; Gordon B. Kaufmann, Los Angeles, architect.
Residence Mr. William C. and Mrs. Lydia McDuffie, 930 Orlando Road, San Marino; Reginald D. Johnson, architect.
Sec. D, Secondary Buildings.
Residence Mrs. Mansell Clark, 1126 Wotkyns Drive, Pasadena; Palmer Sabin, architect.

GROUP II. MULTIPLE DWELLINGS

Sec. C. Clubhouses having bed rooms.
The Athenaeum, California Institute of Technology, 551 S Hill Ave., Pasadena; Gordon B. Kaufmann, Los Angeles, architect.
California Club, 538 South Flower St., Los Angeles; R. D. Farquhar, Los Angeles, architect.

GROUP III. COMMERCIAL BUILDINGS

Sec. E. Bank Buildings.
Bank of America (Alteration), 7th and Hoover Streets, Los Angeles; Weston & Weston, Los Angeles, architects.
State Mutual Building & Loan Association Building, 415 W. Fifth St., Los Angeles; William Richards, Los Angeles, architect.
Sec. H. Airports, Railroad Stations and Commercial Buildings not included in previous sections.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.00 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 75c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 65c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $19.50 per M (average).
Common O.P. select, average, $25.00 per M.

1x6 No. 3—Form Lumber	$14.00 per M
1x4 No. 1 flooring VG	42.00 per M
1x4 No. 2 flooring	36.00 per M
1x4 No. 3 flooring	30.00 per M
1x6 No. 2 flooring	42.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1x4 No. 2 flooring	$30.00 per M
1x4 No. 3 flooring	26.00 per M
No. 1 common run T. & G.	26.00 per M
Lath	4.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.75 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$ 90.00 M ft.
1 1-16x2¼" T & G Maple	117.00 M ft.
⅞x3½ sq. edge Maple	110.00 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $46.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $65.00 per 1000. R. W., $75.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $4.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $4.75 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work ..... 27c per yard
Three-coat work ..... 36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$ .85 lineal foot
8-inch	1.25 lineal foot
10-inch	1.40 lineal foot
12-inch	1.60 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .28
3½-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.26bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $50.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $16.00 to $25.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, 90c sq. ft. (not glazed).
Galvanized Iron, 25c sq. ft. (not glazed).

Steel—Structural
$78 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $71 to $75 per ton cost of steel; average building, $77.00.

Steel Reinforcing—
$68.00 per ton, set, (average).

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50: Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20

*Established by Special Board

CRAFT	Journeyman Mechanics
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00

CRAFT	Journeyman Mechanics
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

Southern California Edison Company Building, 601 W. Fifth St., Los Angeles; Allison & Allison, Los Angeles, architects.

GROUP IV, QUASI-PUBLIC BUILDINGS

Sec. A. Churches.
First Congregational Church, Sixth and Commonwealth Sts., Los Angeles; Allison & Allison, Los Angeles, architects.
Sec. B. Academies, Collegiate Buildings, Private Schools and other Educational Buildings.
Seeley W. Mudd Memorial Hall of Philosophy, University of Southern California, University Avenue and Exposition Boulevard, Los Angeles; Ralph C. Flewelling, Beverly Hills, architect.
Denison Library, Scripps College, Claremont; Gordon B. Kaufmann, Los Angeles, architect.
Sec. C. Hospitals and Institutional Buildings.
No awards.
Sec. D. Recreational, Social and Cultural Buildings.
Town Club of Pasadena, 378 S. Madison Avenue, Pasadena; Roland E. Coate, Los Angeles, architect.
Sec. E. Buildings not included in Sections A, B, C and D.
Undergraduate Dormitories, California Institute of Technology, 1201 East California St., Pasadena; Gordon B. Kaufmann, Los Angeles, architect.
Mabel Shaw Bridges Auditorium, Claremont Colleges, Claremont; Wm. Templeton Johnson, San Diego, architect.
Building for Los Angeles Society for Prevention of Cruelty to Animals, 3608 11th Avenue, Los Angeles; Harold O. Sexsmith, Los Angeles, architect.

GROUP V. PUBLIC SCHOOLS

Sec. B. Junior High Schools.
Charles W. Eliot Junior High School, Pasadena Board of Education, 2350 N. Lake Avenue; Marston & Maybury, Los Angeles, architects.
Sec. C. Intermediate and Elementary Schools.
Ninety-Sixth Street School, Los Angeles Board of Education, 96th and Firth Avenue, Los Angeles; David J. Witmer and Loyal F. Watson, Los Angeles, architects.

GROUP VI. FEDERAL, STATE AND MUNICIPAL BUILDINGS

Sec. B. Libraries, Art Galleries and Museums.
Northeast Branch Library, City of Pasadena, Washington and Catalina Sts., Pasadena; Marston & Maybury, Pasadena, architects.
Sec. E. Other Public Buildings.
Auditorium of the City of Pasadena, Green Street at Garfield Avenue, Pasadena; Edwin Bergstrom, Los Angeles, Cyril Bennett and Fitch H. Haskell, Pasadena, architects.
Pasadena Municipal Light Plant (Addition), Glen Aira and Fair Oaks Avenue, Pasadena; Bennett & Haskell, Pasadena, architects.

GROUP VII. MEMORIALS

Sec. B. Mausoleums.
Henry E. Huntington Mausoleum, Huntington Estate, San Marino; John Russell Pope, New York, architect.

NORTHERN CALIFORNIA CHAPTER

The regular meeting of the Northern California Chapter, A.I.A., was held at Marquard's Cafe, San Francisco, March 28. In the absence of President John J. Donovan, the meeting was conducted by Vice-President Raymond W. Jeans.

Guests present were: Messrs. Burrowes, Cope, Facht, Francis, Gould, Huber, Kruse, Jellick, Leonard, Atholl McBean, Peter McBean, Spencer, Warnecke, Whitton, Professor Clark and Professor Davis.

Albert J. Evers, chairman of the San Francisco Bay Bridge Committee, reported progress since the last meeting.

Announcement of the death of the following members was made: Ernest Coxhead, Walter D. Reed and O. G. Traphagen.

A committee composed of Messrs. Allen, Gutterson and Garren was appointed to frame suitable resolutions of respect for transmittal to the family of each of the decedents. In keeping with further instruction, a copy of these resolutions is inscribed in the minutes as follows:

Ernest Coxhead

For twenty-three years Ernest Coxhead, F.A.I.A. has been an honored member of the Northern California Chapter of the American Institute of Architects. No man has deserved and received the respect and affection of his fellow architects more certainly than he. The highest standards of professional integrity, combined with a creative ability in design which remained fresh and vital throughout his career, and a power of keen critical judgment free from prejudice or favor—these qualities were recognized by all the members of his profession with whom he came into contact.

He contributed generously of his time to the study of many public projects. The Bay region is enriched by distinctive examples of his executed work. He was sincerely interested in the education of young architects, as evidenced by his services in France for the University of the A.E.F. while engaged in war relief work, and by numerous services for the American Institute of Architects and locally.

The loss of Ernest Coxhead will be deeply felt by the Northern California Chapter and his memory held in esteem as an excellent architect, a fine gentleman, a loyal friend.

Walter D. Reed

The loss of Walter D. Reed as a member will be deeply regretted by the Northern California Chapter of the American Institute of Architects. The large degree of success he had already achieved in the practice of architecture was interrupted by his untimely passing; but beside the tangible records, are left the friendly and appreciative memories of his fellow architects.

His public-spirited activities were always directed to the improvement of his community and the welfare of its citizens. His professional training enabled him to give valuable service to his country during the World War.

To his family, the Northern California Chapter wishes to extend its sincere sympathy.

Oliver G. Traphagen

In the passing of Oliver G. Traphagen, F.A.I.A., the Northern California Chapter loses a link with its earliest traditions.

Although retired from active practice for some years, he has been on our list as an Honorary Member, and his record of honorable practice as architect is inspiring to those who have come after him.

The Chapter regrets the loss of a member of forty-four years standing, and extends its sympathy to his family.

With the disposal of business, the members of the Chapter had the pleasure of listening to a group of leading engineers and others who told of the recent damage by earthquake to buildings in the southern part of the State.

Walter L. Huber presented lantern slide pictures showing in close detail the damage to different types of construction. The reasons for various failures were pointed out by Mr. Huber, to which were added other observations and his conclusion that in most instances, careless or unscrupulous design and workmanship were responsible for the greater part of the damage.

Professor Raymond B. Davis of the University of California, Berkeley, dwelt upon the various

structural weaknesses responsible for the failure of so many buildings. Had the structures been properly unified in their component parts, and had good materials and workmanship been installed under careful inspection, the damage would have been negligible, in his estimation.

Atholl McBean stated that it was the cheap, shoddy buildings that collapsed. The contrast with those which were well built led to his hope that before the use of any specific material is condemned, facts should be thoroughly investigated to determine if the construction had been properly installed. In his opinion, security against further shocks is to be found within the State laws for the licensing of architects and engineers who are qualified to design and supervise the construction of buildings which will be safe for the public to occupy.

John B. Leonard, head of the San Francisco Bureau of Building Inspection, told of the inability of city inspection departments to adequately supervise all construction and stated his belief that certified inspection is the proper solution of public supervision to avoid conditions as recently exposed. Mr. Leonard also outlined proposals now before the Legislature to guard against further earthquake damage.

Erle L. Cope, who had just returned from Sacramento where he had worked in the interest of securing the passage of this proposed legislation, told of the present status of the bills and explained their provisions in detail.

Mr. Spencer of the Oakland Building Inspection Department endorsed Mr. Leonard's remarks in stating that inspection methods must be entirely changed.

Following these speakers the Chapter voted to support and endorse the earthquake legislation as recommended to the Legislature by the Southern California Chapter, A.I.A., and the Structural Engineers Association of Southern California.—J.H.M.

OREGON CHAPTER, A.I.A.

The March meeting of Oregon Chapter, A.I.A., was held in the offices of the President at 8:00 P. M., March 21, Mr. Crowell presiding.

The following were present: Messrs. Crowell, Marsh, Brookman, Sundeleaf, Doty, Knighton, Parker, Church, Jacobberger, Holford, Wallwork, Whitney, Johnston, Bean, Weber, Herzog, Aandahl, Rohr, Hayslip, Howell.

The minutes of the previous meeting were read and approved.

Walter Wiebenson gave an illustrated talk on pipe welding.

Mr. Parker, chairman of the building laws committee, reported a meeting of architects generally, to consider the Housing Code as outlined by Mr. Bean. A. H. T. Williams, Chairman of the O.B.C. Committee on proposed projects to secure funds from the R.F.C., made a progress report.

Mr. Herzog moved that the Oregon Chapter, A.I.A., endorse the work done by the O.B.C. Committee as explained by Mr. Williams, and that the president appoint a committee from the Chapter to keep in close touch with the O.B.C. Committee. Seconded by Doty and carried.

Mr. Aandahl reported for the education committee.

Mr. Herzog reported for the legislative committee.

Mr. Holford reported for the exhibition committee.

Mr. Doty reported on progress of the class for architectural draftsmen.

It was moved by Mr. Holford, seconded by Mr. Whitney and carried that the City Council be urged to establish a proper set-back line along the east side of Front Street, from Glisan to Columbia, and that the Park Department plant trees along the sea wall.—L.D.H.

ARCHITECTURAL CLUB NOTES

The San Francisco Architectural Club has been selected as the place for holding the first preliminary exercises of the 26th Paris Prize, Northern Section. To one of those participating here, congratulations are due V. De Mars, student of architecture, University of California, for the Mention he rated and his selection for the second preliminary.

Engineer's Day at the University of California was the Club's first out of town visit this year, and needless to say, was replete with surprises. If one has not seen a test of concrete, steel or other building materials, a great treat was missed.

C. J. Sly, structural engineer, spent a week immediately following the 'quake in Southern California, and brought back a general report describing his experiences, together with a detailed analysis of various classes of construction that failed or withstand the shock.

At the regular business meeting of the club May 3, an "Old-Timer's" night will be held. Many of the Bay city architects will be present and to those familiar with the club's hospitality enough said.—H.W.R.

WASHINGTON STATE SOCIETY

Means of obtaining Federal building commissions for local architects in Washington State cities and towns, occupied the attention of the members of the Washington State Society of Architects at its meeting in the Dexter Horton Building, Seattle, on Thursday evening, March 9. President John S. Hudson and William J. Jones took leading parts in the discussion.

FIELD BILL INSURES SAFETY IN SCHOOL BUILDING DESIGN

[*Editorial in San Francisco Chronicle*]

A move in the right direction is the Field bill, just introduced in the Legislature, to require all plans for public school buildings to pass the scrutiny of State authority as to the safety of design and construction.

The bill grows, of course, out of the experience in the Los Angeles earthquake, where school buildings by the score in Los Angeles and other towns in the quake area proved unequal to the shake. The disaster also proved that we can erect school buildings that are safe in such quakes and can do it practically. Those that failed in Los Angeles area did so because they were not built as well as we know how. The purpose of this bill is to insure that schools shall be built safely in the future.

It is now recognized that this duty falls properly on the State, as the practical agency to carry it out. While it is now being taken care of in San Francisco, and without doubt the city of Los Angeles has now learned its lesson, the smaller cities are, for the most part, not practically equipped to make sure of the safety of their schools. City building codes, which apply to private builders, are not necessarily applicable to public buildings. When the city builds it is its own boss. Too frequently school authorities are not aware what is necessary to make their schools safe. They have learned this fact in Los Angeles county.

The State is the practical agency to check school building plans and insist that schools be built safely. It already has the organization of experts to do this work and it alone has the uniform authority to make sure that the schools, everywhere in California, shall be designed and built for safety.

The Field bill provides that all schools built in California must be from plans prepared by a certified architect or certificated structural engineer and the plans approved, as to safety of design and construction, by the State Division of Architecture. Progress reports are to be required from the architect or engineer and authority is given to make inspections, if necessary. The cost is assessed by a percentage fee on the building district.

Editor's Note—The Field Bill was approved by the Legislature April 9th.

While we are not prepared to say the Field bill is right in every detail it is the right move. It can be made right and then it should be passed. But let the Legislature beware of trying to introduce too close specifications. This measure will be most useful if it is left flexible to changing conditions.

The need of State control of school building has been fully proven in Los Angeles county. We add here a quotation from a letter from President John J. Donovan of the Northern California Chapter of the American Institute of Architects:

> California and other States are littered with school buildings built following this procedure (i.e., getting the most building for the money) and in many instances they are as unsafe from fire and panic hazards as they are from earthquake shocks.
>
> The children of California have been spared now on three major occasions. Will the next earthquake occur between 8:30 a. m. and 4 p. m.? Who can tell?

Mr. Evers Agrees

Albert J. Evers, President of the California State Board of Architectural Examiners, in the *Chronicle* "Safety Valve" of March 20, contributed the following:

All thinking persons must agree with the general tenor of your editorials regarding the collapse of school buildings in the Southern California earthquake.

Anyone can imagine the additional horrors which would have occurred if schools had been in session or if large gatherings had been assembled in churches, halls or similar buildings. The three major California quakes of recent years have occurred at hours when most persons were in their homes. The next time we may not be so fortunate.

> The type of school building which produced the greatest number of failures in the southern disaster was undoubtedly selected by well meaning but misinformed authorities, as the type which would give them the greatest area per dollar expended, unfortunately at the sacrifice of safety which could have been obtained at a comparatively small additional

cost. It is a well-known fact that carefully designed and constructed buildings of other types can be erected which will be earthquake resistant to a high degree.

The architects of California and their collaborators, the structural engineers, are able and willing to design such earthquake resistant structures, but cannot do so if they are compelled to build to the low limits of cheapness and stability which present building laws will allow.

Only a few years ago a great hue and cry was raised that the well-designed and well-built San Francisco schools were costing more per unit of space than those of other communities. Perhaps the pride of these communities in their low-cost schools is not well taken in view of the possibility of failure under earthquake shock. No saving in cost can justify placing in jeopardy the lives of our school children. These same conditions apply to other buildings of a public or semi-public character. Not only should the design and construction of school buildings be governed by a State law, but also hospitals, theaters and all places of public assembly. Moreover, our State tenement house act, which governs to some degree the structural safety of hotels, apartments and dwellings should be carefully reviewed to give adequate protection to the occupants of these buildings.

By all means, as you have suggested, let us have a survey of our schools, at least, and condemn or make safe those which are now a menace.

In order to profit by the lessons learned in the hard school of experience, we must enact legislation which will set adequate minimum requirements for buildings, and especially those of a public or semi-public character, so that those who are qualified to do so may design them for safety without the compulsion of economic pressure driving them to the unsafe low limits of the present codes.

SPOKANE POST OFFICE BUILDING

Messrs. Rigg and Vantyne, and G. A. Pehrson have been selected to prepare plans for Spokane's $700,000 Postoffice Building.

The new structure may be of brick construction with a stone front, of monumental design to suit the triangular plot on Havermale Island, adjacent to Howard Street and north of the Great Northern railway tracks.

BANK REMODELLED

J. Lister Holmes, architect, Republic Building, Seattle, prepared the plans for remodeling the former quarters of the Olympia National Bank at Fifth Street and Capitol Way, Olympia, to suit the needs of the newly organized Washington National Bank of Olympia.

WINNERS OF SKETCHING CONTEST

The Summer Sketching Competition conducted by the Washington State Chapter, A.I.A., with George Gove of Tacoma, vice-chairman, in charge, reports nineteen prize winners. Twenty-nine students and draftsmen resident in Washington submitted 206 drawings. The judges were Arthur Loveless, Victor Jones and Norman E. Fox.

The winners were divided into two classes as follows:

Senior Class — Kenneth Anderson, Victor Steinbreuck, Perry Johanson, J. H. FitzGerald, John Richards, John Phillips, Harry K. Wolfe, W. De Neff, Leo Jacobs, Roland D. Lamping, Charles T. Pearson, Howard Tollefson and Ed Young.

Junior Class — Howard Tollefson, Robert L. Durham, Tom Smith, Arne Sommerback, Kenneth Stormant and Robert Vandenberg.

CANNOT DO OUTSIDE WORK

Architects and civil and structural engineers who are employed on a full time basis by the state, cities and counties, or any other political subdivision, are prohibited from doing outside work under a measure passed by the assembly.

The bill, AB 1002 by Albert Morgan, Alameda County, is designed to prevent public employees from taking work away from private engineers and architects.

Such persons employed by political subdivisions on a part-time basis may take outside work but are expressly prohibited from using publicly-owned equipment in performing it.

ALUMINUM IN ARCHITECTURE

The Aluminum Company of America, Pittsburgh, has recently issued a most attractive little book, entitled "Aluminum Architecture," descriptive of the building uses of aluminum. It is well printed and illustrated. The format comprises five chapters of descriptive text, one of specifications, one of tabular data, and an index.

NEW WATERPROOFING PRODUCT

The Master Builders Company of Cleveland announce a new product which is known as "All Weather Masterseal." It is a colorless surface waterproofing. An interesting leaflet has been prepared illustrating the new product.

STATE HOSPITAL

The office of State Architect George B. McDougall, Sacramento, has completed plans for the first unit of a state hospital group, to be built on the Lewis Ranch, Ventura County. The initial unit will cost $375,000.

BOOKS ON FOREIGN ARCHITECTURE

[Compiled by Richard S. Wormser, 22 W. 48th St., New York]

ANDERSON, SIR JOHN—*The Strength of Materials and Structures* — 8vo, cloth, Eighth Edition. London, 1885. With tables and diagrams.

BARTHOLOMEW, ALFRED—*Hints . . . on Fire-Proof Buildings . . .* occasioned by the late destruction of the Royal Exchange, London.—pamphlet, 8vo, uncut. London, 1839. With diagrams.

BECKETT, SIR EDMUND — *A Book on Building, Civil and Ecclesiastical; including church restoration and theory of Domes and great Pyramids, etc.*—8vo, cloth, Second Edition, London, 1880.

BIRCH, JOHN — *Concrete Buildings for Landed Estates in Great Britain and Ireland* —8 vo. cloth, London, 1881. 15 full or double-page plates.

BOWYER, ALFRED — *Hints to Householders (on selection of country and suburban houses)*— 8vo, cloth, London, 1907.

BRICKLAYERS', PLASTERERS' *and* SLATERS' MANUAL, etc.—12mo, boards, uncut. London, 1829.

BROWN, ARTHUR E.—*Hand Brickmaking—a short treatise on modern practice for small brickyards*—8vo, cloth. London, 1902. 35 illustrations.

BUCHAN, WILLIAM PATON—*Plumbing: a textbook* —8vo, cloth, London, 1876. About 300 illustrations.

BUILDING—Article from Encyclopedia—folio, 22 pp. n.p., n.d. (ca. 1750) 1 full-page copperplate.

BURN, ROBERT SCOTT—*The Illustrated London Architectural Engineering and Mechanical Drawing Book*—8vo, cloth, London, 1853. Profusely illustrated with mathematical diagrams and sketches.

BURNELL, GEORGE R.—*Limes, Cements, Mortars, etc. A Rudimentary Treatise*—8vo, cloth. Eleventh Edition. London, 1878. Binding loose.

BUTLER, D. B.—*Portland Cement: Its manufacture, testing, and use*—8vo, cloth, Second Edition. London, 1905. Illustrated with diagrams and photographs.

CLARKE, A. DUDLEY—*Modern Farm Buildings: their construction and arrangement*—8vo, cloth, Second Edition. London, 1895. Plans and diagrams.

CROUCH, JOSEPH AND BUTLER, EDMUND — *The Apartments of the House* — 8vo, decorated cloth, uncut. London, 1900. Profusely illustrated with full-page and other plates.

DEMPSEY, G. DRYSDALE—*Rudimentary Treatise on the Drainage of Towns and Buildings*—8vo. cloth (Division 2) London, 1849.

DOBSON, EDWARD — *Rudimentary Treatise on Manufacture of Bricks and Tiles*—8vo, cloth. Part I. London, 1850. 36 engravings on wood.

Rudiments of Art of Building, in Five Sections— 8vo, cloth. London, 1849. 111 woodcuts.

Rudimentary Treatise on Foundations and Concrete Works—8vo, cloth, London, 1850. Illustrated by wood cuts.

DONALDSON, THOMAS L.—*Letter to H.R.H. Duke of Sussex with plan . . . for Art, Science, etc. by . . . assistance of Government*—8vo, wrappers. London, 1838. With author's compliments.

DRYSDALE, J., AND HAYWARD, J. W.—*Health and Comfort in House Building (on ventilation with warm air, etc.)* — 8vo. cloth, London, 1872. Folding tables and diagrams.

ESTATE AND HOUSE AGENT—*The Complete Assistant for the Landed Proprietor, Estate and House Agent, Land-Steward, Proctor, etc.*— 8vo, ¾ leather. London, 1824. In 2 parts. With plates and appropriate tables including colored frontispiece.

GLYNN, JOSEPH—*Rudimentary Treatise on Construction of Cranes and Machinery for Raising Heavy Bodies, etc.*—8vo, cloth, London, 1849. Ill. with full-page lithographs.

GREEN, J. L.—*English Country Cottages; their condition, cost and requirements*—8vo, cloth, London, n.d. 63 plans.

HALLATT, G. W. TUXFORD—*Hints on Architectural Draughtsmanship* — 12mo. cloth, Third Edition. London, 1902.

HOPPUS'S — *Practical Measurer; or measuring made easy . . . a new system showing at sight, solid content of any piece of timbre, stone, etc.* —7x3", 8vo, leather, London, 1856. Frontispiece folding diagram plate.

HORTON, RICHARD—*The Complete Measurer (for timber and stone)*—8vo, cl., Fourth Ed. with additions. London 1881.

HOSKINS, GEORGE GORDON — *An Hour with a Sewer Rat, or a few plain hints on house drainage and sewer gas*—12mo, cloth. London, 1879. Ill. An amusing book consisting of a first person dissertation by a rat.

KEAY, ISAAC—*The Practical Measurer: His pocket companion, containing tables . . . for speedy mensuration of timber board, etc.* Appendix by E. Hatton. 8vo, (7x3") leather, Fourth Ed. London, 1730. Soiled. Binding shabby.

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KRANTZ, J. B.—*Study on Reservoir Walls*—8vo, cloth, N. Y. 1883 Translated from French by Mahan, Ill. by 34 plates. Title-page torn.

LATHAM, BALDWIN—*Sanitary Engineering (guides . . . to works of sewerage and house drainage) with calculations*—8vo, ¾ leather, Second Ed. London, 1878. 13 lithograph folding plates, mounted on linen. Leather rubbed.

MAITLAND, FOWLER — *Building Estates; a rudimentary treatise on development, sale, purchase, of building land, etc.*—8vo, cl., London, 1883. Plans and ills.

MCPHERSON, J. A.—*Waterworks Distribution. A practical guide to the laying out of systems of distributing mains for the supply of water to cities and towns.* — 8vo, cloth, London, 1900. Illustrations include folding plates.

MECHANIC'S COMPANION, or the Elements of Practice of Carpentry, Joinery, Bricklaying, etc. —with explanation of terms and practical geometry — 8vo, boards, uncut. London, n.d. ca. 1830. 40 copperplates.

MENZIES, WM. — *A Treatise on the Sanitary Management and Utilization of Sewage*—square 8vo, cloth, London, 1865. 9 colored lithograph diagrams.

MERRYWEATHER, JAS. COMPTON—*The Fire Brigade Handbook. A manual of the organization and equipment of fire brigades*—8vo, cloth, g.e. London, 1911.

RICHARDSON, C. J.—*The Englishman's House*—8vo, cloth, Third Ed. worn. London, n.d. Nearly 600 illustrations.

SALMON, WM.—*The Builder's Guide, and Gentleman and Trader's Assistant*—8vo, calf, rubbed. London, 1736. Copperplate frontispiece and vignettes. Numerous tables.

STEPHENSON, GEORGE—*Estimating: a method of pricing builders' quantities for competitive work* 8vo, cloth, Seventh Ed. London, (1913) Pencil notes on several pages.

SWINDELL, JOHN G., AND BURNELL, G. R. — *Treatise on Walls and Well-sinking* — 8vo, cloth, revised edition. London, 1886. With illustrations.

TAYLOR, JOHN — *Description of Rain-Gauge* — pamphlet, 1827, n.p. Reprint from Philosophical Mag. and Annals—with an engraving.

VIOLLET-LE-DUC, E.—*How to Build a House, an architectural novelette*—8vo, cloth, Second Ed. London, 1876. Translated by B. Bucknall. Ill.

WEALE, JOHN — *Dictionary of Terms used in Architecture, Building, Engineering, Mining, etc.*—8vo, cloth, Fifth Edition. London, 1876.

WHEELER, GERVASE—*A Practical Handbook of Useful Information on all Points connected with Leasing, Buying, or Building a House*—

8vo, cloth, Second Ed. Revised. London, 1872. With plans and views.

WHILDIN, J. K.—*Memoranda on the Strength of Materials used in Engineering Construction*—12mo, cloth, N. Y. 1860. Folding plans and text illustrations.

WILSON, HENRY, AND HUME, WILLIAM—*Surveying Improved, or the whole art, both in theory and practice, fully demonstrated*—8vo, full ooze Fifth Ed. London, 1762. Copiously illustrated with folding engravings.

WOODLEY, W.—*Design of Buildings*—8vo, cloth, London, 1894. 8 folding plates in color and black and white.

WORKING-MAN'S COMPANION—*Results of Machinery, namely cheap production and increased employment, etc.*—12mo, cloth, Fifth Edition. London, 1832.

WYLE, SAMUEL—*The Practical Surveyor, or the art of Land Measuring made easy*—8vo, calf, Seventh Edition. London, 1780. With folding copperplates. Back strip chipped.

"RENOVIZING" POWER

Engineers attending the 6th Midwest Engineering and Power Exposition at Chicago during the week of June 25th to 30th will find a new word for their vocabularies which comes from Philadelphia. "Renovizing" power will be the theme of the exposition, or in plain English, "repair, remodel, and restore" power plants, utilizing today's improved equipment and supplies.

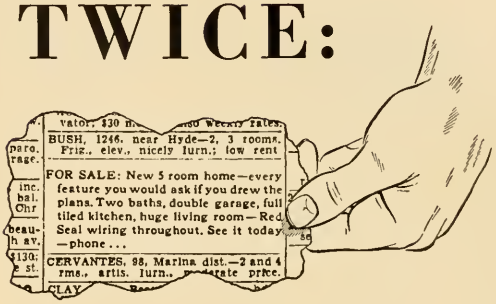
This exposition will be one of the features of a week which will see the greatest gathering of engineers ever held in this country. Twenty engineering organizations have already perfected plans for their conventions at Chicago. The combined membership of these groups is over 100,000.

Leaders in the building industry will discuss the specific problems of their industry in relation to present day conditions with the idea of outlining practical plans for rehabilitation or "renovizing" as a good business proposition. The Century of Progress will add mental stimulation because of its presentation of widely diversified modern scientific and industrial achievements.

OIL BURNING BOILER

The American Radiator & Standard Sanitary Corporation of New York City has issued an attractive brochure illustrating the new "Ideal Oil Burning Boiler No. 12—De Luxe Model." Illustrations are in color and diagrams and performance tables are included, together with dimensions, outlets and inlets. Copies may be obtained by addressing the company at 40 West 40th Street, New York.

Read it through TWICE: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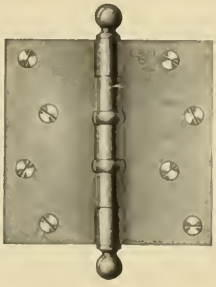

MANY MARBLE GLASS CONTRACTS

Architects and owners are reported favorably impressed with results attained with marble-glass as a decorative building material for store fronts, restaurants, beauty parlors and sweet shops. The material looks so much like marble that it can hardly be detected from the genuine article. The innumerable delicate veins and royal colors of marble may be simulated in any character desired.

George MacGruer, whose company is manufacturing marble-glass under patents pending, states that he has lately perfected an improved method of Neon sign, the tubes being set in the marble-glass so that a sign may be read distinctly from the sides as well as in front. The maintenance cost is reduced to a minimum as it is possible to clean the sign just as one would clean a window. It is equally effective by day or night.

A recent contract of special interest calls for a marble glass front at L. Carella's market on Ocean Avenue, San Francisco. The entire facade will be red Numidian marble-glass with Hungarian fleure border and piers. An attractive Neon sign in marble-glass and non-staining metal is embodied in the design as a part of the elevation. Albert H. Larsen is the architect.

At 550 Montgomery Street marble glass panels have been installed to hide the unsightly structural columns in the show windows. This is a new method of taking care of unsightly columns. The MacGruer Company has recently completed a marble glass installation at Solari's Grill on Geary Street; also, a beautiful interior-exterior for the beauty salon of Elizabeth Arden on the fifth floor of Magnin's. The colors are Belgian blue (black and white). In Southern California the MacGruer Company has completed one of its new concealed Neon signs for I. Magnin & Company on Colorado Street, Pasadena, and Rogell's sportswear shop on Hollywood Boulevard.

A marble-glass Neon sign is also planned for the new shoe store at 20th and Broadway, Oakland, and the Hart, Schaffner & Marx store, 1450 Broadway, Oakland, Bliss & Fairweather, architects.

BUILDERS' EXCHANGE ELECTION

The annual meeting of the San Francisco Builders' Exchange was held March 20. Reports of the president, secretary, treasurer and board of directors were read for the past year and approved.

The reports show that the business and financial condition of the Exchange are satisfactory.

The following were elected directors for the ensuing year: Charles W. Carle, R. J. H. Forbes, W. H. George, Emil Hogberg, E. M. Hundley, Jos. B. Keenan, J. D. McGilvary, H. N. Patterson, E. H. Peterson, James H. Pinkerton and A. H. Wilhelm.

HOW TO MAKE ARCHITECTURE PAY

Illinois Society of Architects Monthly Bulletin

Architecture as a profession may be largely an expiring matter at present but when the Committee on Practice opened up this topic at a recent meeting of the I. S. A., it proved to be one of the most inspiring subjects dealt with in a long time. After studying the ills of the profession for a year and a half, the committee was well fortified with ideas as to how to get hold of that profit dollar and squeeze at least one hundred pennies out of it. This treasure chest was opened up by the hard-working secretary, F. Charles Starr, who outlined the scope of the committee's work and was rewarded by some well-deserved encomiums from the presiding officer.

Budgeting

"How to Budget Drafting Room Expense" was explored by F. B. Long, who stressed the well-known but seldom heeded fact that success in any endeavor is largely due to proper proportioning of expense to income. Budgeting an architect's expense is a sure way to achieve this happy state and he proceeded to point out exactly how a budget system might be expected to function. One important point brought out was the advisability of a thorough study of preliminary drawings. "I have learned," he said, "that the more complete the early studies, the less the cost of working drawings will be. When these preliminary studies have been completed, steps should be taken immediately to arrive at a reliable figure as to the probable cost of the building. This should be carefully compared with previous estimates or understandings with the owner and definite business-like steps taken to bring them into harmony."

Shop Drawings

The importance of shop drawings was pointed out by Howard White who explained that where there is a general contractor, he should be required to review, check and assume responsibility for the co-ordination of the shop drawings instead of merely marking them with a rubber stamp and then passing the burden along to the architect.

What About Fees?

On the ever recurring subject of fees, Melville Chatten thought that the first essential was to make the fee sufficient to enable the architect to furnish complete service. The volume of an architect's work is limited in most cases because his work is based largely on personal service. The average client expects this service. Consequently, when profit is decreased, as is bound to be the case when there is a decrease in cost of construction, the architect faces a most serious situation. He cannot make up the loss in percentage by increasing his volume of production like any manufacturing or selling business would do, but must

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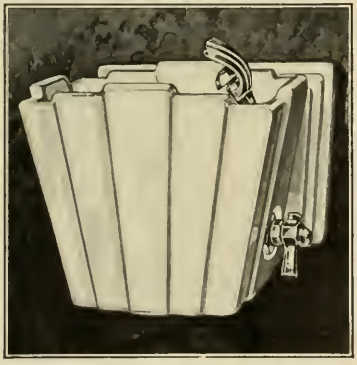

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make up the difference by an increase in effectiveness in handling his work. With the return to normal business conditions, it will probably be found that the committee's study of fees will prove to be the most helpful part of its work.

Stopping Leaks

The next subject on the program dealt with accounting for architects. How to account for the dollar you haven't got has always been a difficult undertaking and we regret that we are unable to reproduce the contribution of Tirrell Ferrenz in full. "Records indicate," he stated, "that 91% of the business failures might have been prevented by proper accounting methods. Many architects exercise a fair control over their production costs but few seem to realize the importance of an accurate determination of overhead. One of the most dangerous leaks comes about through the architect's failure to recognize his own services as worth anything—specifically his neglect to charge a salary for himself as well as for his employees. Other factors in overhead which are generally overlooked are business promotion expense and non-productive time. The importance of the latter item can be easily appreciated when it is considered that the amounts paid to each employee for the two weeks vacation with pay, one week of holidays and one week of sickness, equal 8% of their yearly salaries. It is believed by the committee that proper accounting methods, if generally followed, would prove to be a most potent force in solving the problems of promiscuous free service and fee cutting.

SALES TAX IS FAVORED*

From time immemorial the tax gatherer has been unpopular, and yet in taxation lies the strength of a nation; without taxing power, no Government could exist and our complex community life would be impossible. Intelligent and beneficent taxation is desirable, but excessive taxation resulting from waste or extravangance or graft or stupidity, or all of them together, is oppression in its worst form. It stifles progress and robs every citizen.

In this dark period through which we are passing, when economy and honesty in Government are needed more than ever, it is fitting that we give serious attention to the enormous burden of taxation which is making recovery from the depression extremely difficult.

It is estimated that the sum of Federal, State and Municipal taxes is in excess of fourteen billion dollars, and the aggregate income of all the people, out of which the sum has to be paid, was somewhere between forty and forty-five bil-

Extracts from an address by J. B. Berryman, President of Crane Company, and broadcast over the Blue Network of the National Broadcasting Company, under the auspices of the American Taxpayers' League.

lion dollars in 1932. If these figures are correct, then 33 cents out of every dollar of income goes to pay the cost of Government. It does not require an acquaintance with higher mathematics to enable any one to grasp the significance of these figures and the ultimate result if the brakes are not applied.

We must have economy and intelligence in high places. All of us are being forced to retrench, not from choice, but necessity, and we must carry the gospel of our own economy to Congress, State Legislatures and City Halls.

Taxation is the barometer of established government. Almost without exception, if you have low taxes you have good government; if you have high taxes, you have poor government. When you experience a great reduction in your income and see no corresponding reduction in the cost of government, you know that something is wrong.

Tending to prolong the present situation is the fact that taxes are not felt directly by a sufficient number of people. The property owner feels them keenly; so does he whose income is above a certain minimum; but only about one out of every fifteen is sharply conscious of paying taxes direct to the Government. While all others are helping to pay taxes, they are not definitely conscious of the hardships which excessive taxes place upon them. If they were, there would be an undeniable insistance that something be done about it.

Of two men working side by side in a factory, suppose one owns his home and the other does not. When one receives his pay check he realizes that a certain portion of that check must go for taxes on his property. He has a concrete measurement of what he is paying for his government. If the amount of taxes rises or falls, it reacts upon him directly.

When the other worker receives his wages, he uses them to meet current expenses. He senses that it is difficult to save; he thinks of things he would like to have, but at the end of the week he finds that his money of the beginning of the week is gone. He doesn't have a definite measure of the degree to which taxes ate into his wages; therefore, this man is not tax-conscious, though he is a taxpayer.

Today, the property owner is tax-conscious because his tax is the most important single source of tax revenue in this country and approximates five billion dollars of the National tax bill. In many instances, the property tax burden has reached the point of virtual confiscation and has imperiled our economic structure through the charge upon homes, upon agriculture, land and business properties.

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practically confiscated by reason of the tax bill exceeding the possible revenue.—This illustrates how the power to tax is the power to destroy and it is the duty of every citizen to curb that power before the country is bankrupt.

My talk is particularly directed to those who think they pay no taxes—that vast body of people who rent their homes, whose income is not sufficient to come within the scope of the Federal income tax, whose occupation does not bring them into contact with the innumerable taxes of one kind or another which have to be paid directly to governmental taxing bodies. Every moment of your daily life you help to pay this tax bill. When you pay your rent the invisible hand of the tax gatherer reaches over the landlord's shoulder to take a portion. Your bills for food, clothing and everything else, all have a portion of it hidden in the purchase price. Your voice today is needed to help break this strangling hold of taxation. You have not only a patriotic impulse to urge you on to do your share, but also a selfish one; reduce the tax bill and you will find your dollar increases in purchasing power.

You can make your desires known. As a citizen, inform your Governor, your Senator, and Congressman, your State Legislators and the heads of your municipality, of your wishes. Public officials quickly respond to an unmistakable call for drastic economy. Make clear that it is not a question of whether taxes can be reduced or not; it is a question of how much and when they are to be reduced.

In addition to the indirect, most of us pay a number of direct taxes. If you buy a package of cigarettes for ten cents, six cents of that amount goes to the Government. If you buy an automobile, you are taxed; if you run it, the tax on each gallon of gasoline, Federal and State, averages five cents, and in some States, seven cents. If you own a motor boat, the Federal Government levies a tax on the use of it. If you draw a check you are taxed two cents for having a bank account; if you want light in your home, the Government sees to it that 3% is added to the electric bill for its benefit. If you go to a theatre, or a prize fight, or join a club, the Government takes a toll of 10%.

The tax gatherers of the Middle Ages, who are reported to have oppressed the people, were the rankest amateurs compared with the taxing professionals of today.

It is evident that the great body of our people, who think that they are not interested in taxation because they do not own real property, or make an income return, not only pay their share of taxation indirectly, but do actually pay a large amount directly. This being so, why not be honest in our taxation methods; cut out the bunkum

about soaking the rich (if there are any now), and have it understood that inasmuch as every citizen is a taxpayer in one way or another, taxes will be spread on the basis of expenditures rather than on thrift. This means a general sales tax, one of the easiest to determine and collect, and the most equitable. The present idea of taxation is false; it puts a premium on extravagance and penalizes saving. If the people realize what taxation means to them, we may have better government.

We should encourage the people to save and make provision for the time when earning power ceases, but the taxing powers take the stand that as a man saves, so must he be taxed higher than his fellows who have saved nothing. A general sales tax would equalize this, in a measure, because the tax would run in ratio with the spending. The high liver would pay more in proportion than the man living modestly.

FRAME FLATS

Farr and Ward, architects, 68 Post Street, San Francisco, have completed drawings and contract has been awarded to J. Del Favero for two frame and stucco flat buildings to be built on Jefferson Street near Fillmore, for J. Campanelli. The same architects have also completed drawings for a $7000 residence in Burlingame.

BERKELEY RESIDENCE

Edwin Delius, 806 San Carlos Street, Berkeley, is the owner of a one story English style residence to be built on Grizzly Peak Boulevard, Berkeley, from plans by William A. Rich, architect of Orinda. George Windsor is the contractor.

BOHEMIAN CLUB BUILDING

The Bohemian Club will probably go ahead with its proposed new building at Post and Taylor Streets, San Francisco, Lewis P. Hobart, architect. General bids have been taken from a selected list of contractors. Estimated cost of the work is $500,000.

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[Concluded from Page 4]

Mr. Berryman, "desires a comfortable place in which to live, and the more home owners there are, the better. The home and family are the rocks upon which our civilization is founded. Home building should be encouraged in every way. We were making progress in this direction when something hit us—among other things, waste in government and disorganized public expenditure. When we remove this obstacle, we help to open a large market in which every one shares. Last year, with the increase in population creating a need for 225,000 home quarters, only 60,000 were built. Meantime, the ravages of fire alone accounted for the destruction of considerably more building than the total value of residential structures which were erected."

Mr. Berryman's solution for overcoming our present economic crisis, is summed up as follows: "If the Federal Government will balance the budget by drastic economies, if that is possible; if the State and Municipal bodies will follow suit, and if all the quack economists are segregated where they can talk themselves to death, the people of this country have brains and courage enough to work out their own salvation within a comparatively short time."

⁂ ⁂ ⁂

EARTHQUAKE DATA

For the first time in the United States complete scientific data of a heavy shock will be available as a result of the Southern California earthquake March 10, 1933. By rare chance instruments to measure and record the forces set up by an earth movement had been set up in earthquake area by the Carnegie Institute of Washington, D. C., in cooperation with California Institute of Technology at Pasadena, and by the U. S. Bureau of Standards at Washington, D. C. The main seismograph station of Carnegie Institute is located in the hills near the west end of the Colorado Street Bridge at Pasadena. Six other seismographs are set up at various places in Southern California. Instruments specially designed by the Bureau of Standards to register movements in buildings were set up in a number of structures in the earthquake area.

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Complete records were obtained from all the seismographs except one. Records will be available from all other instruments, it is expected, and the data will be of invaluable aid to scientists and engineers in determining the action of all the forces developed in an earth quake shock and in designing and constructing buildings giving the most effective resistance to them.

In addition to having these scientific records there has also been made available the first hand observations of seismological experts attached to the Carnegie station and to the California Institute of Technology. These experts traversed the earthhquake area the day following the shock and studied its effects. Intensive study is now being given to all the information at hand and some valuable contributions to seismological literature will soon be forthcoming. What theories they will support or disapprove cannot now be forecast but it is expected they will give a decisive answer to some mooted questions of vital importance in engineering and construction fields.

While the experts studying the earthquake have not definitely committed themselves, all evidence appears to establish the Rosecrans fault, more commonly known as the Inglewood fault, as the source of the disturbance. This has been traced from the Baldwin Hills, north of Inglewood, southeasterly through Signal Hill and out into the ocean past Huntington Beach and Newport, and extending south as far as Laguna Beach. The earthquake of 1920 was attributed by some seismologists to a slip on the upper end of this fault with the epicenter in the open country northwest of Baldwin Hills. The shock of March 10, 1933 was apparently farther down on the fault line with the epicenter 50 to 60 miles from the seismograph station at Pasadena. There is nothing to bear out the theory that the slip occurred in the channel between the mainland and

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Catalina Island although reports indicate that the force of the disturbance extended some distance out into the ocean as reported from a ship which had left the harbor shortly before it occurred. There are no authentic reports of any tidal movement in the Long Beach-Los Angeles sector but a high tide was reported farther down the coast, where Rosecrans fault runs out into the ocean.

Intensity of the shock of March 10 is rated variously at VIII to IX on the Rossi scale. While opinions differ the latter appears to be more nearly correct. Opinions also differ as to intensity of the shock compared with that of 1920 but many engineers estimate the two shocks were approximately on the same scale.

As to the direction of the initial movement it seems well established that in the Long Beach district it was from north to south. There are evidences of movement in the same direction, however, in widely separated localities. The strong east and west movement noted, was a reciprocal of the original and was manifest more particularly in buildings which offered the least resistance to it. Thus in structures with greatest length north and south the distortion caused by swaying of the building damaged partitions running east and west while in structures with greatest length east and west partitions running north and south were affected.

The vertical movement was most pronounced in the Long Beach area where it was variously estimated at 10 to 16 inches, while in the extreme northern sector of the area it was estimated at 1½ to 3 inches. A man in the Breakers hotel at Long Beach looking down the beach stated that as the shock came the whole beach seemed to rise in a succession of waves.

The disturbance is described as "tectonic," being a readjustment of a fragment of the earth's crust along a rift extending to a depth of possibly 10 miles below the surface.

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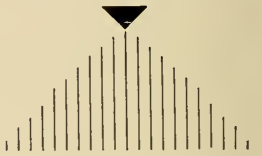

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RECENT ARCHITECTURAL PATENTS

WALLBOARD

Hugh M. Spencer of Lockport, N. Y., Assignor to The Upson Company of Lockport, N. Y., has patented a wallboard which is said to possess a high degree of moisture resistance. A relatively minor quantity of magnesium carbonate is added to the filler which will produce a waterproof product.

The method of making this wallboard consists of forming a plastic mass, including a ground inorganic filler and a minor quantity of light magnesium carbonate, continually forming said mass into a thin layer and applying a liner of cellulosic sheet material thereto, and continuously subjecting the associated mass and liner to a temperature below the scorching temperature of said liner to transform said mass into a hard moisture resistant body adhering to said liner.

VENEER BRICK AND TILE

An invention by Vincent W. Nooman of La Salle, Illinois, relates to veneer finish of tile, brick and the like for building surfaces, such as exterior and interior walls, ceilings, floors, wainscotings and the like.

A further object of the invention is to provide novel bars or strips for containing courses of tiles or bricks against building surfaces in such manner that the entire weight of the tiles or bricks is carried on such bars or strips, thus eliminating any base or foundation structure when the invention is utilized in veneering walls.

Generally speaking, the invention contemplates the utilization of strips or bars applied to building surfaces, that is, the foundation portion of such surfaces, and the veneer bricks or tiles are provided with suitable notches for hooking

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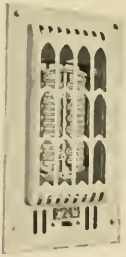

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engagement with such bars or strips.

When such invention is utilized for veenering walls, the entire weight of the bricks or tiles is carried by such strips or bars directly by the foundation structure of the building surfaces.

When the invention is utilized for applying a brick or tile surface to a ceiling, the attaching strips or bars suspend the tiles or bricks with interlocking engagement.

When the invention is utilized for floor construction, the attaching strips or bars interlock with the tiles or bricks in a manner to retain such tiles or bricks against the foundaton portion of the floor structure.

Masonry Facing for Steel

An invention by Vern E. Shanklin, Dallas, Texas, relates to a method of applying masonry facing to composition, wood or metal backing and then securing said assembly upon a superstructure, particularly referring to such construction as applied to buildings where a veneer is required.

The object of this invention is to provide a means whereby construction and costs are substantially reduced through saving in time and material, without detracting in any way from the appearance of the finished surface so treated or the wearing qualities thereof.

That which is new and novel in this construction is the division of the method of construction into two stages or steps. First, the securing of masonry facing units, such as brick, tile, artificial or natural stone, and the like, through dovetailing, interlocking or otherwise mechanically securing same, together with the assistance of a mastic binder, upon, into, or over a backing of wood, metal, or composition. Second, interlocking each masonry unit with the like unit adjacent to it which are provided

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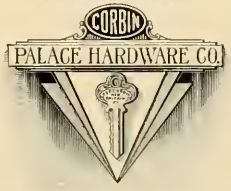

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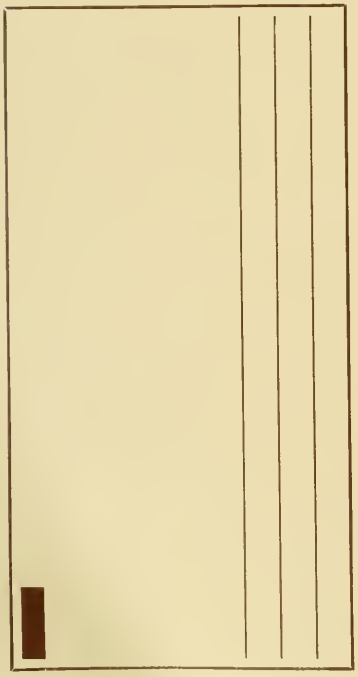
THE ARCHITECT AND ENGINEER

MAY 1933

Modern Architecture at Century of Progress Exposition

The Architect and Engineer for June will feature Chicago's 1933 World's Fair Buildings with many interesting and striking views photographed especially for this magazine. . . . Plans and details will accompany a semi-technical description. . . . A portfolio of pictures will also reflect the possibilities of Future Housing and Decoration. . . . The Exposition doors open June 1. . . . This special number will be in the mails June 10. . . . . .



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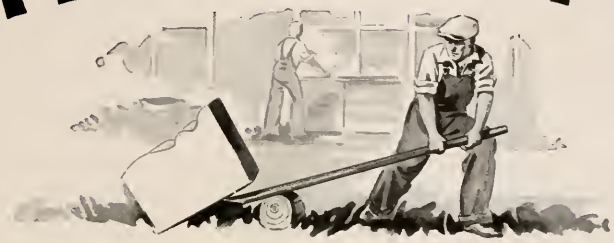

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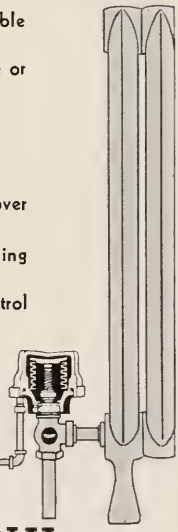

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PACIFIC COAST architects who received commissions to design Federal buildings just before the new administration came into power, are "up in the air," insofar as knowing when, where and how to start on their prospective jobs. At the time this was written, none of them had received any final instructions to proceed with their drawings. The following from one of the appointees is significant and probably typical of the experience of the majority:

"I have received word (written and signed) from the architect's office of the Treasury, that by direction of the Secretary of the Treasury I had been appointed architect of the building in question with instructions to await telegram of confirmation and contract. I also later received with my return credentials, including exhibit of work, a set of instructions, architect's report forms, etc., but no contract or program as to requirements, nor location of lot. All of the balance of the deal goes into the new administration and under the circumstances I do not know what will happen.

"Veterans say that they have never known of an appointment such as I have being abrogated by a succeeding administratiton. However, the President has diverted the building appropriation to the planting of trees, roses, hollyhocks, etc., so far without much success, as the needy do not seem to want to do this sort of work and are not enlisting as expected. Curiously enough I had not anticipated my appointment, although I made a most intensive campaign and almost got up to the President, not to mention Senators, Governors, Congressmen and Congresswomen, newspaper men, trustees of universities, bridge builders, Chambers of Commerce, bankers, etc.

"Perhaps your splendid magazine might say that the skilled artisan has as much right to work and live as the farmer who can live off the soil or the tree planters who don't want to work."

⁂ ⁂ ⁂

WE were pleased to see local industries in the running on the Bay Bridge contracts. Columbia Steel and Clinton Construction Company were successful bidders in their respective branches. The Clinton Company is one of San Francisco's pioneer construction companies and its reputation is coast-wide for sound, efficient building.

⁂ ⁂ ⁂

THE architect, in designing and specifying the wiring system for a building, must anticipate the possible needs and desires of his client. Materials and methods which were more than adequate at the time of installation may prove to be totally inadequate for the increased loads required by new and improved appliances and the constantly increasing demands for better illumination. Rewiring is always more costly than the original installation and the architect has a definite obligation to his client to provide for all reasonable future demands on the wiring system.

The National Electric Light Association has compiled a useful and comprehensive report on a series of investigations of electric wiring installations with examples of inadequately wired structures which indicate quite clearly that original costs are a minor consideration as compared with the actual economies effected by adequate wiring. Several typical examples follow:

Case No. 1. About five years ago, the service mains in a ten-story office building were increased 100% over the original capacity at a cost of $500.00. This change was necessary because of the tenants' demand for improved illumination. Two years ago, subfeeders to all floors were increased 100% because of additional demands on the part of the tenants. The cost of the second alteration was $600.00.

Case No. 2. Seven-room residence. At the time of construction the owner was urged to make provision for an electric range and the original cost quoted by the contractor was $38.00. One month after occupancy the owner decided to install an electric range and was required to pay $175.00 for this service.

Case No. 3. A sixteen-suite apartment building was originally wired at a cost of $970.00. The tenants are now demanding additional outlets and the owner has obtained a quotation of $785.00 to do the work. These additional outlets could have been installed with the original wiring for not to exceed $350.00.

Case No. 4. An architect's layout for the wiring of a three-story mercantile building was found to be inadequate but a contract was let before realization of this fact by the owner. The cost of the change from the original plans was $4,000.00. Had the final plan been used as a basis for the original bid, the additional cost would have been only $2,500.00.

Inadequate wiring is an expensive economy. The wiring in the majority of present day buildings does not conform with modern standards of adequacy as to the requisite number of outlets correctly located and properly controlled for the complete, economical, and convenient use of electricity, as well as the necessary number of circuits and wire of ample size. This is a problem which demands the attention of every architect so that he may protect the best interests of his clients who cannot be expected to have a technical knowledge of the problems involved.

⁂ ⁂ ⁂

W. I. GARREN, architect of San Francisco, has been giving some interesting radio broadcasts that have given the public—particularly the housewife—a clearer understanding of the architect's mission. Mr. Garren has endeavored to emphasize upon the layman the importance of good design and the economy, in the long run, of employing an architect of recognized standing. Mr. Garren styled his talks "Castles in the Air," and his picturesque and vivid descriptions of French, Colonial, English and Spanish homes, aroused many a young couple into a frame of mind of wanting to start at once on their dream home. Referring to the desirability of co-operation between the client and architect, Mr. Garren said:

"An architect alone cannot plan and design for you a beautiful home. He needs your full co-operation. You must inspire him. You must have a lot of enthusiasm when you tell him what you want. Go at it as if you expected to have the most beautiful home in the world. Have all your dreams to make living an art. Don't mind if you have to cut down, sometimes your best ideas will cost very little. Just remember that a fine house doesn't just happen. It is the product of an architect using good materials, built by skilled craftsmen and contractors. Architecture builds into stone the hopes and aspirations of a people.

"California architects are building in the West the story of your civilization, your ideals, your Castles in the Air."

⁂ ⁂ ⁂

CONSTRUCTION is among the nation's largest industries and revival of its activities will determine in large measure the revival of general business. The sooner President Roosevelt arranges for the promised bond issue to take care of Federal building construction, the sooner the building industry will get out of its slump. Money appropriated for post offices has been diverted to reforestation work and consequently plans authorized for new Federal structures are at a standstill. As we said before, and many times previous, if the country is to recover from this depression improvement will have to start with the building industry.

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MAY
1933

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"What Price Conformity?" is the title of Anson Bailey Cuttall's graphic plea for regional independence in the architecture of this country.

An original and intensely readable essay entitled "Thees Ess California" by Lloyd Sanderson of Los Angeles.

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AIRPLANE VIEW, UNIVERSITY OF CALIFORNIA CAMPUS, BERKELEY
NEW GYMNASIUM FOR MEN IN FOREGROUND

GEORGE W. KELHAM, ARCHITECT

THE ARCHITECT AND ENGINEER

MAY 1933
VOLUME 113
NUMBER TWO

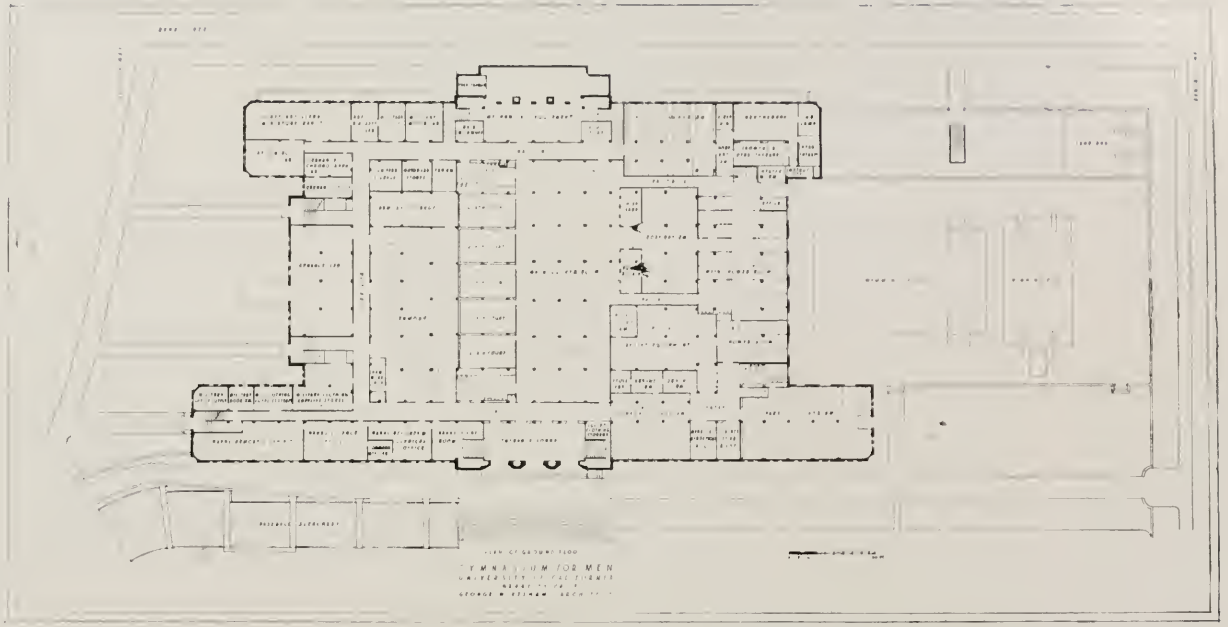
THE NEW GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA, BERKELEY

by
ROBERT SIBLEY
Executive Manager California Alumni Association

THE Gymnasium for Men, final unit of the University of California's tremendous new track development at Berkeley, was opened to the students at the beginning of the spring semester. Included in this development are the track oval, with a seating capacity of 25,000 persons, and a baseball park, judged to be one of the finest college parks in the nation.

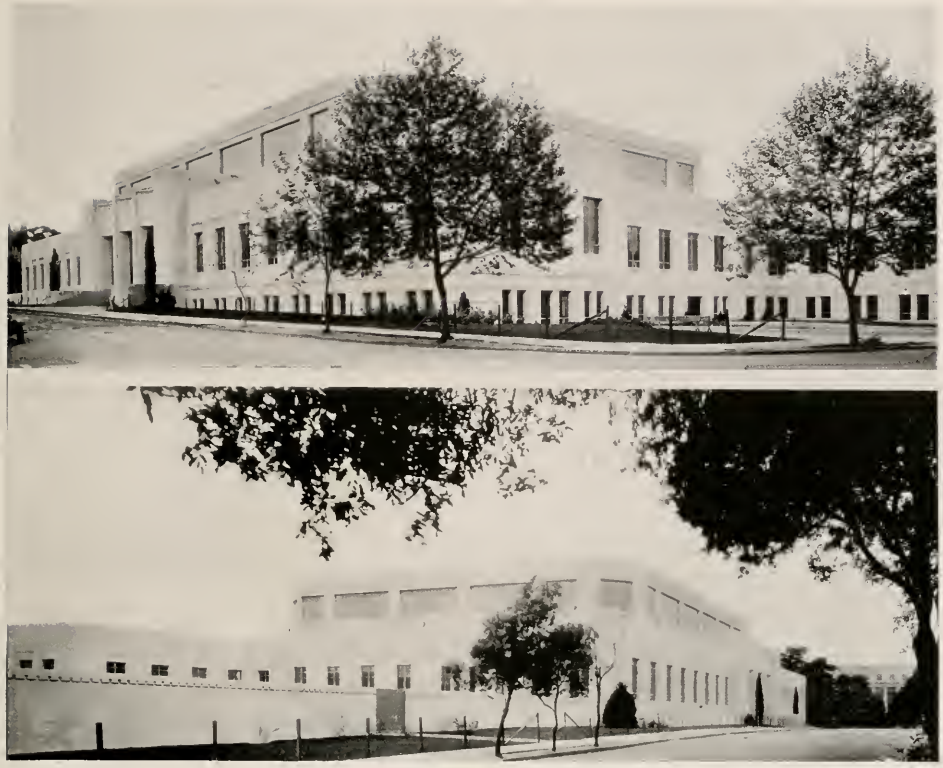
The gymnasium, designed by Geo. W. Kelham, University architect, is of structural steel and reinforced concrete. The exterior is white and severe in design. Its most outstanding feature is the arena for basketball courts which dominates the center of the building and rises one floor above the rest. To reach the arena, one enters the east side of the building, decorated in bas relief with figures of athletes, through the lobby, where the most prominent feature is the great seal of the University of California, one seal at each end of the room, across a hall and into the arena itself. The ceiling towers fifty feet above and converging down to the center from all sides are concrete bleachers. These end about ten feet from the floor and project twenty or thirty feet from the wall of the arena. Movable bleachers occupy this space, and when a game is in progress, they are moved to position so that the line of bleachers is continuous from floor to ceiling. The full seating capacity of

MAIN LOBBY, GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA, BERKELEY



PLAN OF GROUND FLOOR, GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA, BERKELEY

GEORGE W. KELHAM, ARCHITECT



Dinwiddie Construction Company, Builders *Photos by Pease*

TWO VIEWS, STREET FRONTAGE, GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA, BERKELEY

George W. Kelham, Architect

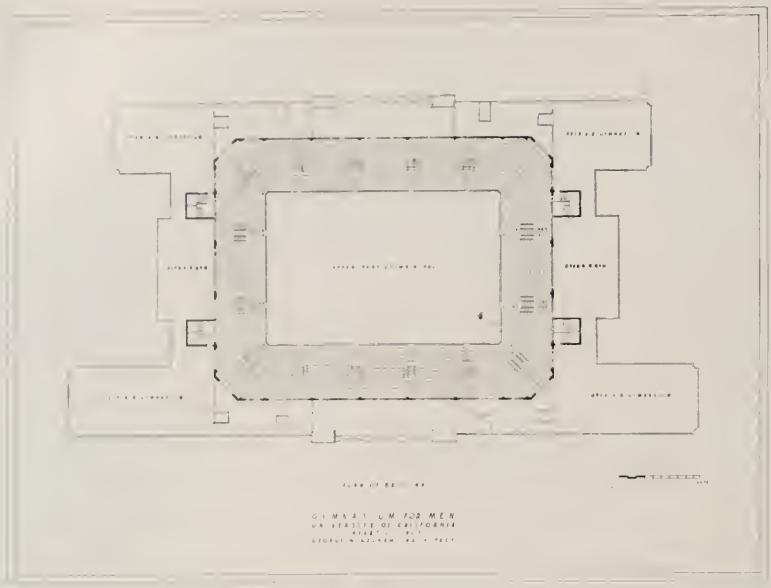
the arena is 7,500, and 5,500 without the temporary bleachers.

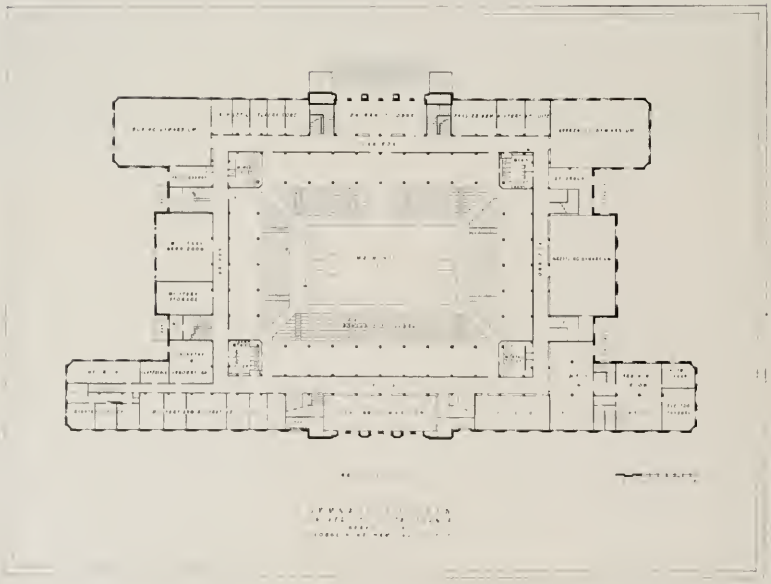
Along the east corridor are the administrative offices of the department of physical education, offices for the various sports, a library and a conference room, while at each end of the hall is a large gymnasium, one for boxing and the other for wrestling. Elsewhere in the building are similar rooms for fencing and gymnastics. All of the gymnasia have offices for the instructors attached. Several other rooms are available for class instruction.

The roof area surrounding the central arena is used for boxing, wrestling, bag-punching, and sun bathing, and provides facilities for golf practice driving in cages.

In the basement under the arena is a huge locker room for students. On either side of this, at a still lower level, although the entrances are on the same one, are five handball and squash courts. Entrance to the shower room is at either side of the locker room, and egress from the shower room is in the middle, through the drying room, a novel idea in "one way traffic".

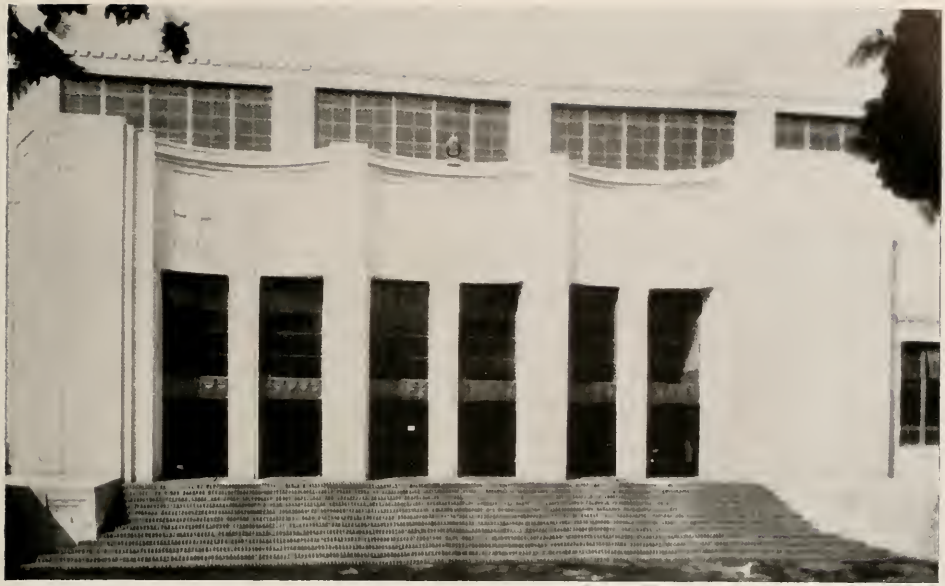
To the left of the student section are locker and shower rooms for the faculty and other University employees. Connected to these are a rubbing room, a first aid room, a room for rest and ultra-violet ray treatments, and two others for physiotherapy and hydrotherapy. Physical education students who complain of feeling





PLANS, FIRST FLOOR AND BALCONY, GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA, BERKELEY

GEORGE W. KELHAM, ARCHITECT



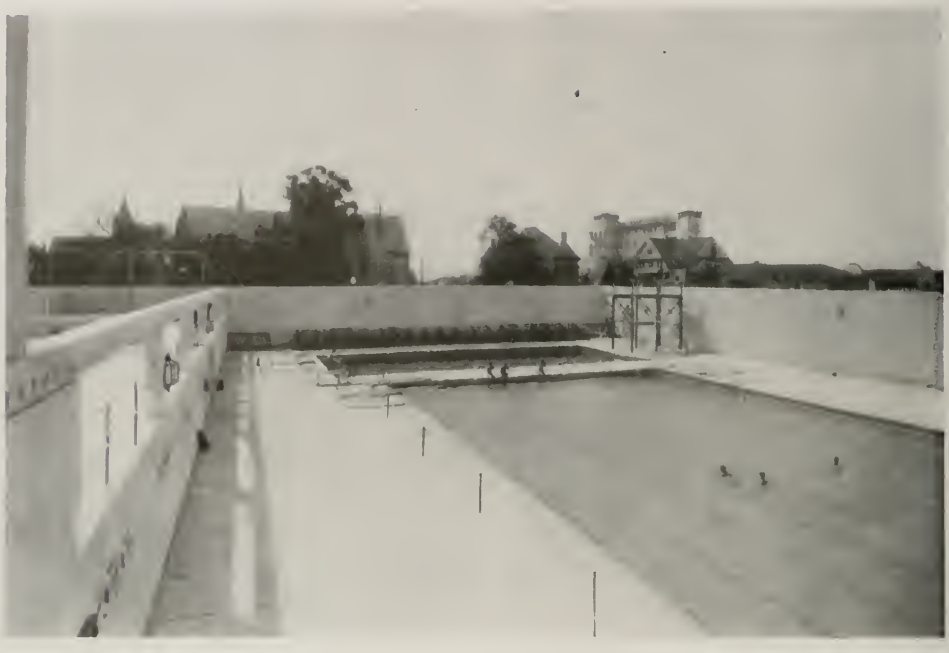
DETAIL OF ENTRANCE, GYMNASIUM FOR MEN,
UNIVERSITY OF CALIFORNIA
George W. Kelham, Architect

ARENA FOR BASKET BALL, GYMNASIUM FOR MEN,
UNIVERSITY OF CALIFORNIA
George W. Kelham, Architect

ill in class are sent to this division for a massage or other treatment and a half-hour's sleep, either in the rest room or on the roof.

Entrance to the two outside swimming pools is through the shower rooms. The first pool, which runs parallel with the the pools. On this there is space for badminton and sun bathing, while at the end is a sand pit and apparatus for "dry land" diving, which will enable beginners to perfect their style without undue risk.

The southwest corner of the gymnasium is reserved for use by the Associated Stu-



OUTDOOR SWIMMING POOL, GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA
George W. Kelham, Architect

building, is of customary depth, ranging from four to nine feet, while the other, placed as the cross bar of a T, has a depth of seven to thirteen feet, and will be used for speed swimming, water polo and diving. The larger pool is divided into three parts, actually making four pools in all, three of which will be used for classes, and the other always open for recreational swimming.

Along the left side of the pools is a deck about ten feet from the ground, but still enclosed by the high wall which surrounds

dents and will house varsity sports. On the first floor are a rubbing room, a lounge, and a porch which overlooks the swimming pools. In the basement are the special locker and shower rooms for varsity sports. The northeast portion of the basement is occupied by the departments of military and naval science and tactics.

The new Men's Gymnasium exerts a powerful influence on the students of the University, from both a physical and spiritual aspect. It combines instruction with recreation, providing a much needed refuge

from the sedentary existence of the scholar and offering students facilities for athletic competition and for holding their meetings and social functions.

The expressed ideals of the department of physical education are no longer merely to provide instruction in athletics, but to instill into the youth under its charge habits of wholesome recreation. Athletics are not considered essential even to health, but merely an opportunity for recreation in one of its finest forms. It is indicative of their success that only about one-fifth of their work is concerned with instruction.

All day long groups of students may be seen on the basketball courts, between the regular class periods, playing for the enjoyment of the game, or in the boxing, wrestling or fencing rooms. There are extra-mural sports under the department's direction — these are participated in by teams composed of students who play in the local industrial league, and by fraternity and organization teams that hold competitions between themselves. In gymnastics, fencing, boxing and wrestling, groups band together in giving exhibitions for various lodge and municipal functions throughout the Bay regions. In October, 1932, in addition to the 1974 students enrolled in regular classes, there were 852 taking part in the various activities for recreation and 636 enrolled for intra-mural activities.

OUTDOOR SWIMMING POOL, GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA
George W. Kelham, Architect

In addition to the facilities it extends to students, the department hopes to be able to widen its scope in the use of this new athletic plant. Plans are underway for the formation of night extension classes which would give the general public opportunity to engage in group games, dancing, swim-

ming, volley ball, badminton, handball and squash. Mixed classes of a social nature are even planned.

Thus, the advent of the new Gymnasium for Men at the University of California in Berkeley heralds the arrival of a new type of physical equipment that not only permits facilities for physical development the equal of any to be found in America, but also provides a setting for a new and far-reaching program of social development that will add greatly to the vigor and vitality of modern University expression in the community where it has its setting.

BASEBALL FIELD AND BLEACHERS, GYMNASIUM FOR MEN, UNIVERSITY OF CALIFORNIA

THE SMALL HOUSE PROBLEM

by
ROBERT D. KOHN, F. A. I. A

To carry out the "sense of the meeting" on the Small House Bureau endorsement voted at the last convention of the American Institute of Architects, the Board of Directors appointed a committee representing in its personnel two of the points of view most strongly urged on that occasion. To be more exact, the committee was asked to recommend to the Board of Directors how the "sense of the meeting" was to be put into effect. The Institute is faced with so many serious problems that each of us has to stand by and do what he can to help, so (although I thought ex-presidents were exempt) here I find myself chairman of that committee. My associates are Messrs. C. V. R. Bogert, Seymour Williams and Clement W. Fairweather of New Jersey and Messrs. Frederick L. Ackerman and Dwight James Baum of New York.

At its recent meeting the executive committee urged me to make a statement to the members of the Institute which would indicate that serious consideration was being given to the difficult situation evidenced by the debate at the convention and the action taken thereon. I hope it may be clear that whatever I say here, as a result of this request, solely gives my own personal opinion on what ought to be done. The committee itself is at work but not far enough advanced to make a report at the present time. What I quote is substantially a report of what was said to the executive committee in asking for an enlarged scope of action for the committee on small houses:

"It is the improvement of small house design which the Institute should take in hand. The Institute as a whole has not actually applied itself to this job. The improvement of small house design has only been considered a collateral issue in connection with an argument between those who favor the sale of stock plans by the Small House Bureau and those who disapprove of these methods. The real problem before the profession is a very much larger one than that. While very excellent small house designs have been produced by certain architects, on the whole the standard of design of small houses both as to plan and exterior, is not what it might be. They tell me that probably 75% of the small houses built in the course of a year are built without the services of an architect. I think we can agree that we ought to do something in order that a larger proportion of these houses come into the hands of competent architects qualified to make them both good looking and effective. Once this is recognized, then the relations of the Institute to the question of the continuation of the sale of stock plans, or whether there may be sales only when an architect's service goes with the plans, takes its proper place as a part of a much larger question,

namely how are we going to get qualified architectural services to a greater extent into this field of small home building?

"Now I think we ought to take it for granted that the Small House Service Bureau is an organization not necessarily tied to any particular method of propaganda. It was endorsed by the Institute as a medium through which small house design was to be improved. As a group of professional men we ought to keep on trying to find a way to do that. If we can find a way, the Institute has it in its power to use the Small House Service Bureau as a means towards carrying it out. At any rate, here we have an organization with a valuable asset, the interest of hundreds of the architects throughout the country and doubtless that interest can be enlisted in an enlarged field of action.

"My plan would be to begin by acting as if a Small House Service Bureau had not yet been created and we were trying to discover what kind of a coordinating agency we need in order that the architects of the country jointly can advance the quality of small house design and at the same time increase the employment of architects in this and similar previously neglected categories of professional work. It seems to me that we ought to be able to get the interest of every Chapter in the country on this basis. Each Chapter might be asked to organize a committee to study the possibilities in its own district and cooperate with the Institute's committee to develop a procedure by which these general purposes would be advanced. Regional designs might be prepared by each group; publicity secured for such designs but particularly for excellent buildings already carried out; a center provided for information to prospective home-builders; publicity given to the benefit secured at low cost by the employment of architects; consultation service offered in this and other fields at fixed fees and divers other measures carried on which would be educational for the public and for the architect as well. These would be measures which could not be carried out by individual effort; only by group action. It is from this larger angle that I think our problem should be attacked. I believe that if the committee starts such a program, a Small House Service Bureau will be found to be a necessity. The existing Bureau would be helpful in carrying on the work and the present procedure could be modified or completely changed as the requirements of this program might dictate.

"Since any such general scheme will require considerable thought, many conferences and much correspondence, it would seem to me reasonable to ask the members of the Institute to be patient and to help us explore its possibilities. At any rate, this is the point of view which I ask the board to permit me to put up to the committee and, if it approves, to the Institute throughout the country."

The executive committee told the chairman of the special committee that his committee was authorized to extend its field of action so as to study the subject as outlined. I repeat that these suggestions, as reported above, were presented only on my own responsibility.

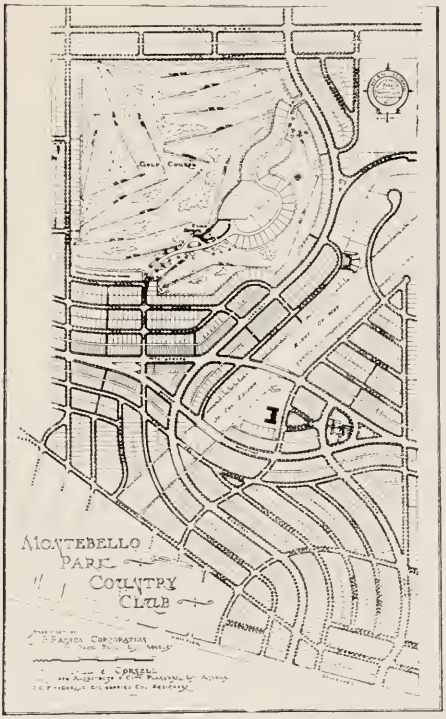
LANDSCAPE ARCHITECTURE AND CITY PLANNING

by
RALPH D. CORNELL, F.A.S.L.A.

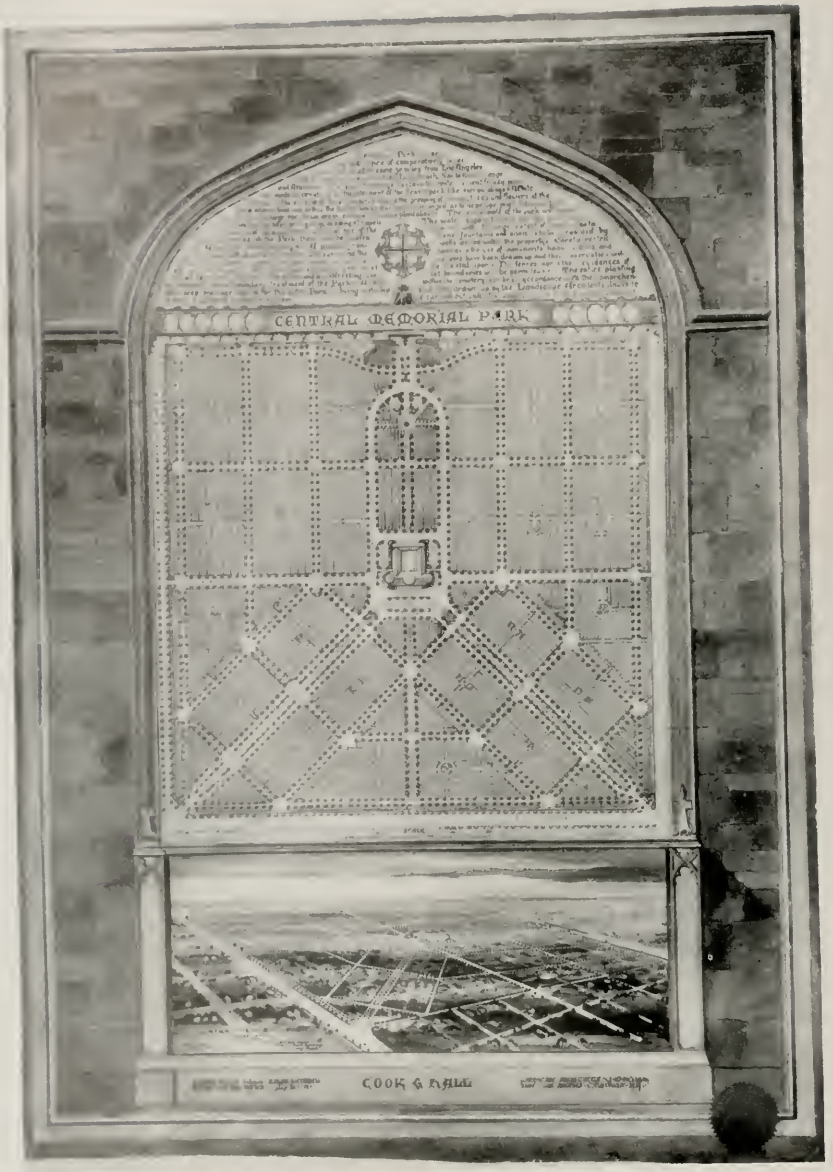
IN the article preceding this I discussed briefly the origin of the profession of city planning and some of the problems that it is called upon to meet. In this present paper I shall go more into the detail of some of its ramifications. Nothing that I say, however, is intended to be profound and my only hope is that the lay reader may be led to a little clearer understanding of the true meaning and value of the professions — Architecture, Landscape Architecture and City Planning —all so closely allied in their activities and vital to our everyday existence.

In the evolution of the three professions architecture was the first to develop and receive recognition. The need of giving buildings their proper setting and functional relationship was, however, so early apparent that what we now know as landscape architecture was actually practiced long before the profession was recognized as such. The grouping of these buildings into communities and cities, their proper relationship to each other and to the activities of daily life, the larger matters of sanitation and hygiene that enter into community existence, parks and open air breathing spaces, drainage, transportation and the thousand and one details of wholesome and efficient social life must all be considered and studied by those trained in such specialties. Our civilization and our urban life have developed into such complex organisms that none of us may go his independent way. We must work together. The more closely allied the many professions become and the better each understands and recognizes merit in the others, the higher will be the results that we may expect to attain.

In planning subdivisions as small bits within the mosaic of a city, or in determining the broader planning principles of a metropolitan community, there are many considerations that such an article as this cannot attempt even to enumerate. But one of the most important phases of such work can safely be said to be that of the use-determination of land. Control of land uses, and attempt at control, have been accomplished through zoning of land and limiting certain areas to definite uses. Only through stabilization of use can stabilization of land values be obtained.



PLOT PLAN, MONTEBELLO PARK COUNTRY CLUB, LOS ANGELES COUNTY
Cook, Hall & Cornell, Landscape Architects

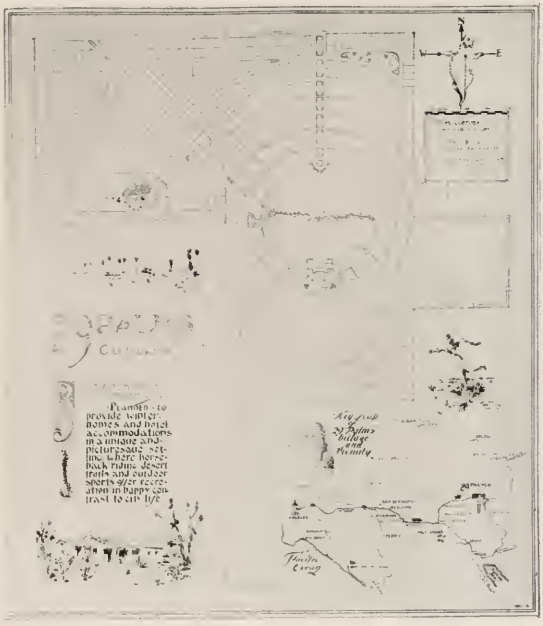


PLAN FOR A CENTRAL MEMORIAL PARK

COOK, HALL & CORNELL, LANDSCAPE ARCHITECTS AND CITY PLANNERS

Proper provision for cemeteries has been unwisely neglected in the average city and regional plan, where their location has been left to commercial chance. Protection to them and to the public demands that they be considered in all community planning.

TWENTY-NINE PALMS—The 180 acres for which this plan was designed lies in the edge of the Mojave Desert with an oasis of indigenous palms and natural springs in its center. The plan includes preservation of the natural oasis, a site for a first-class hotel and cottages and development of a smaller inn, already located on the tract; a business center and large lots for winter homes are also provided. ¶ Recognition and retention of the desert charm have been sought in design and planning of the area. ¶ Cook, Hall & Cornell, Landscape Architects and City Planners.



Proper zoning is not an arbitrary or political attempt to curtail an individual's use of his own land. Rather is it an effort to guide community growth in a way that will stabilize uses and values and redound to the economic benefit of the property owner himself, by insuring against the encroachment of undesirable activities into an area already dedicated to an established purpose.

Thus far, zoning has been accomplished chiefly through the passing of laws that specify definite types of buildings and activities within defined areas. At best it is a difficult problem, particularly when one must contend with American independence and our individualistic tendency to demand personal liberty and freedom to do as we please, regardless of our neighbor. Social laws are inevitable, however, once man congregates into communal groups; and it is just as logical and equitable for a community to guarantee the safety of the home and real property as it is to protect against thievery and murder.

A movement more recent than that of zoning by law has undertaken to zone by planning. The theory is that land uses within a city subdivision may be controlled by the plan of its area rather than by arbitrary laws and specifications. Within reasonable limits this is true and I am inclined to believe that plans of the future will take this phase of planning increasingly into account and give more and more study to its possibilities. It is commonly understood that the width of streets, their cross-section, their general course and direction, their gradients, their traffic uses, all influence the type of development that is attracted to their frontage. Parks, parkways, playfields and other open spaces also bear direct relationship to the type of improvements attracted to a district. General topographic qualities of a region, local conditions of wind exposure and temperature, river beds, mountains and all other natural phenomena, each plays its part in use determination. As a community plan recognizes these natural influences and adds to them the other influences of its own design and arrangement, it can go far toward the proper zoning of a district without the extreme need of legal control that might otherwise be necessary.

To illustrate with a specific condition, all localities are now entirely familiar with

ADMINISTRATIVE CENTER, MIDWICK VIEW ESTATES, LOS ANGELES COUNTY, CALIFORNIA
Cook, Hall & Cornell, Landscape Architects and City Planners

The plan was designed to concentrate civic activities and business within the center of the tract and devote the balance of the area to residential uses only.

the high-speed traffic arteries that carry swift-moving traffic from one local center to another, or from one city to another. In our ignorance of the past it was thought that these speedways enhanced the value of property along their frontage. On the contrary, sad experience has taught many of us that this is not true. Nobody wishes to live on such a highway where speeding traffic dispenses noise and poisonous fumes throughout a twenty-four hour day, with a remedy that is, in essence, zoning control by plan. This remedy suggests that intercommunity traffic arteries be made into what have been termed *freeways*. A freeway thus becomes a highway upon which no property is allowed to front and which is intersected only at widely spaced intervals, properly planned to accommodate the cross traffic. Abutting property is made to front either on these cross streets, on secondary streets that run parallel to and at

CASCADE AT UPPER END OF MALL, MIDWICK VIEW ESTATES. LOS ANGELES COUNTY, CALIFORNIA
Cook, Hall & Cornell, Landscape Architects and City Planners

Above and back of this cascade is the natural site for the amphitheater. Planting has not yet grown to mature size but suggests its possibilities.

the attendant inconvenience and bodily risk of fighting this traffic every time one ventures from his house. And business also has discovered that it is not fed by this stream of mad motorists who are intent only on reaching their destination. Thus our country has, within a few years, acquired miles and miles of frontage along these traffic arteries; frontage that, for the most part, has no economic use as such and is nothing but a financial burden to him who has acquired it as a business or residence lot of speculative possibilities. The aggregate financial loss to owners of such lots is enormous.

As an antidote to such conditions some of our leading city planners have offered one side of the freeway, or on closed-end streets that come in at right angles to the freeway, but do not intersect it. Adjoining property is further protected, ideally, by a planting zone or strip parallel to and on either side of the freeway. Thus, in one act of planning, has been solved the perplexing problem of what to do with frontage along a traffic street,—for the frontage has been eliminated as such. The through highway has been made beautiful by its flanked planting, its efficiency of use has been increased manyfold by eradicating local usages of frontage and by reducing the numbers of cross intersections, and the safety factor has been raised many percent.

Another contribution to advanced thinking on subdivision planning and the principles that should prevail, is illustrated by Radburn Garden Homes being developed in New Jersey. Here the amenities of home life, as expressed in having the houses overlook park areas, the elimination of traffic noise on residential streets and the safety factor for children going to and from school, are prime considerations in this interesting scheme of subdivision. Each group of homes in this tract has a motor approach on one side and a pedestrian approach, through the garden, on the other side. Thus the service is all confined to one entrance while pedestrian walks and gardens remain undisturbed by vehicular traffic. The old gridiron system of streets has been entirely abolished. The blocks are irregular in shape and very large. Back of these large blocks, which are entered and serviced by local, closed-end streets, has been developed an extensive park area that is continuous throughout the subdivision and for the special use of its residents. This park system permits free pedestrian access throughout the community so that children can go to school without crossing busy traffic lanes and can engage in active recreation, safe from the hazards of speeding motors.

Although the freeway has not here been developed, except in a modified form, the plan does provide means to direct access between important points and stresses the value of confining high-speed travel to definite lanes where it can be kept within control and minimize its conflict with pedestrians. In addition to this, every pedestrian crossing is provided either with a bridge or an underpass.

The tendency of thought, for some that have not given attention to matters of this kind, is that the larger projects may well justify the employment of specially trained men but that the smaller developments neither need nor should afford this service. Nothing could be farther from the truth. True it is that one cannot employ all his tricks on a fifty acre tract, nor can a tiny subdivision carry the many elements of a complete city plan. But the mere fact of their smallness and their inevitable dependence on other units within the larger scheme of a community development, calls for wise consideration in the determination of uses to which property shall be put and the type of detail planning that will create the greatest value to this parcel within the larger economic unit.

It seems proper that each unit of subdivided land should have its own individual significance so far as possible. And yet a planner should never seek individuality at the cost of functional fitness. Neither should personal desire overweigh judgment as to the type of subdivision that is best suited to a locality. There have been many sacrifices on the altar of hope, with attendant financial losses, because the conditions of the neighborhood were not properly analyzed or recognized at the time that the character of the subdivision development was decided upon. No successful plan can be entirely arbitrary. The successful land unit is apt to be one where a certain compromise has been made between highly developed individuality and recognition of the facts of environment. A subdivision should be planned from the outside in as well as from the inside out.

A tract of a few acres must be more highly specialized in its uses than need be for the area large enough to encompass many community functions. In order that the proper use may be determined it becomes necessary for the designer to take into consideration the plan and use of a considerable outlying area, — sometimes that of the entire city plan. Only by so doing is he able to fit his one small piece of land harmoniously into the mosaic of the community and know that it will serve its purpose in the larger scheme of city life.

The architecture of each neighborhood unit should be in keeping with its economic status, its needs and uses. The landscape architecture should insure the proper setting and spacing of buildings in good composition and functional relationship. City planning should provide that all units fit properly together into the comprehensive city plan. Thus the three professions combine to provide wholesome and efficient living environment, in the fullest possible measure, to the small subdivision as well as to the large regional group.

WHO BUILT THAT BUILDING?

by
NATT PIPER
Architect, in Pencil Points

WHILE visiting in a certain city I was riding one day with my friend Aldrich who is a building contractor. As we drove down the business streets he pointed out here and there a structure, saying each time, with pride, "I built that building." And this was the remark he repeated again, gesturing towards a very fine looking office building, which I judged to be about ten years old.

"That is a pretty good looking job," I remarked. "I think you have done a lot towards improving ————," naming the city.

"I have," he said.

"Who was the architect for that last one you showed me?" I inquired.

"I've forgotten. Let's see, was that Billy Wilson, or Hart and Lore? Blest if I remember, now," he replied casually. "That's the Telegram Building. I did that job in 1920. How time flies!"

We arrived at our destination and my friend drove on as I went to the office in which I had an appointment.

After an hour or so I started to leave, as one of the younger men to whom I had been talking came into the reception room pulling on his gloves. "Which way are you going, Mr. Alanson?" he inquired. "I'm on my way to Tenth and Main."

"So'm I," I said.

"Fine. I'll take you right there. Let's go."

And so, alongside another driver, I traversed the same street that I had previously ridden through.

"My dad built that building," proudly declared my companion, pointing to an imposing office building. "Good job of brick work, don't you think?"

"Yes. It certainly is," I said, recognizing with some little surprise the last structure my friend Aldrich had pointed out "So your father did that?"

"Yeah, one of his first jobs. He built it for Old Man Liff. Do you know the Lafayette Hotel? That's one of the old man's jobs too; he's built a lot of 'em down town here."

"Is your father an architect or a contractor?" I inquired.

"Architect? H-e-l-l no! He's a contractor."

"But I thought Aldrich built the Telegram Building," I countered.

"Oh, yeah, sure—well he did. That is, he was the general contractor. But dad did all of the brick work."

"Oh, I see," I said.

Now, I have heard many men tell of their experiences in building, for I travel for a firm whose business brings me into contact with real estate men, contractors, and occasionally an architect. It suddenly dawned upon me that I had often heard the expression, " I built that building," yet I never gave it much thought, until, in the same afternoon, two different contractors were credited with the erection of the same edifice. This coincidence intrigued me a bit but my interest soon waned as I went about my work.

The following day I called upon one of the leading bankers and took him to lunch.

From our table, near a window, we both could see the Telegram Building. I said to Mr. Banker, "The old Telegram looks just as good as ever, doesn't it?"

"Well it ought to. When we built the job we saw that the right stuff went into it."

"I didn't know you put that up — I thought it belonged to a Mr. Liff. So you're interested in it, are you?"

"Of course it does belong to Liff," returned Mr. Banker, "but we're 'interested,' as you say, for we built it—I mean we furnished the money."

"Oh, I see," said I.

Here is my chance to hear the architect's name, I thought. "Who designed the building," I queried.

"Henry Richter designed it. Mighty smart fellow; he saved us a lot of . . . . . Why, Henry!" he exclaimed, as a man came towards our table. "Hey, Harry, I want you to meet Mr. Alanson, an old friend of mine. Just talking about you. Isn't that strange? Just this minute told Alanson what fun we had when we built the Telegram Building." He introduced us and continued, "Richter's a structural engineer. I know you will let him eat his little old lunch with us, won't you?" with a nod towards me.

"Surely. Three can't be a crowd in this hectic hustle to feed," quoth I. "So you designed the Telegram Building, Mr. Richter?"

"Yep. One of my first jobs. And I want to tell you that good construction pays; shove the steel into 'em if you want 'em to last. Make the owner pungle up the jack. I had a heck of a time with Old Man Liff to convince him that extra bracing was worth the money. But I finally won out, and there she stands. I'll admit I'm proud of the old shanty."

As I was dressing in my hotel room that evening the conversation during lunch returned to me. In addition to the architect, for there certainly *must* have been one, four different fellows "built" the Telegram Building! Each of the four implied, strongly, that he was its creator. I was willing to bet a thin dime they wouldn't claim the baby if it looked like the devil. I wondered again who the architect was. By the looks of things there was a conspiracy to keep him entirely out of the picture! "Yeah—Mr. Banker built it, did he? Like fun." I muttered, "By gum! This is getting interesting. I'm going to find out who 'built' that building." Or rather I would discover the man who was responsible for its fine appearance. Number one man, the contractor, wasn't; number two, the brick mason, couldn't have been; number three boy, the banker, and lastly, the engineer, didn't put the good looks into it. Next day I could easily complete my work and have several hours to spare before train time. I would use this time in finding out something I was determined to know.

Right after lunch I was standing in the corridor of a building, waiting for the elevator, when my eye caught the sign, "Palmer and Stephens, Architects" on a nearby door. "Great!" I thought, "here's where I learn the name of the architect for the Telegram." I entered the office. A tall young fellow came to me and I immediately came to the point. "I'm somewhat of a stranger in town; I happened to be passing your door and I have wanted to ask some architect a question," I said.

"If I can answer it, I'll be glad to," courteously replied the young man.

"I want to know who designed the Telegram Building."

"That's easy," he said, "I did! Right in this office. Why do you ask?" — with a grin. He pulled down his vest and visibly expanded.

After assuring him I was actuated by curiosity only, I asked, "By the way, are you Mr. Palmer or Mr. Stephens?"

"Neither. My name is Winkler — J. Johnson Winkler," he answered.

Again in the corridor I glanced at the sign, "Palmer and Stephens." Yet Winkler had just forcefully told me that *he* had designed the Telegram, "Right in this office." But Richter had designed it too! Now I may have been altogether too inquisitive, and I may have been dumb—but, in any case, I knew instinctively that I was not

through with my search. I started for a telephone. I was going to begin to unearth, discover and find out the name of the ding-busted architect who had "built" the Telegram Building!

"Hello—is this Hart and Lore's office?" I voiced into the receiver.

"Yes. Mr. Lore speaking," answered the instrument.

"Mr. Lore, I picked your number at random. I wanted to ask if you, or some one in your office, can tell me the name of the architect who built—who drew the plans and the specifications for the Telegram Building, corner of Eighth and Main. Or whether you can tell me of some architect who knows his name," I ended, quite incoherently.

"That was one of my jobs. Who is this speaking, please?"

"Alanson is my name," I answered, "and if you will be in your office for fifteen minutes, I'll drop in. I want to talk to you —that is, if it's convenient."

"Perfectly all right, Mr. Alanson, I'll wait for you." Lore was graciousness itself.

I was in Hart and Lore's office within five minutes. Mr. Lore introduced himself and I acknowledged my name. His office walls were hung with colored pictures—you know, the kind architects make. Among them I saw a huge picture of the Telegram Building. It was being dusted by a stenographer. Mr. Lore placed a chair for me opposite his own and remarked, "Fine day, Mr. Alanson."

"Yes—nice weather we're having. I came to see you, Mr. Lore, about the Telegram Building. I like it very much and I wanted especially to know the name of the architect who drew the plans for it. And, as you told me you had, I now want a little more information."

"Surely, surely Mr. Alanson. Pleased to tell you about it. Did you want to know the cost—or what? Glad to help; got all the data filed away. Fact is, prices are way down now; cracking good time to build. Labor is plentiful and labor's a big item in construction, you know. That," outwardly swinging his hand to the large picture, "could be built for a great deal less today. Do you live here, Mr. Alanson? Haven't I met you before—or was that Mr. Alanson I once knew, a real estate man? Are you in the real estate business, Mr. Alanson?"

"No. I'm not in the real estate business," I replied to his genial questioning, "and I am more or less of a stranger in town, and I am not thinking of building—at present, anyway," I concluded.

"To be sure," said Mr. Lore. "Those things have to be done gradually. But I'll be tickled to death to knock out a quick sketch for you sometime — any time you say. No obligation, at all, just something to keep my fellows busy. You see we have twenty men in our organization. Like you to meet Roscoe Hart, my partner. He 'tends to all the outside work. We've got quite a few jobs going now. I am in the office most of the time—you understand, I do all the designing."

"I see—and that's just in line with what I want to know. When you said that you had drawn the plans for the Telegram, did you mean you, yourself, or your firm?"

"Well—yes and no. I was the architect for the work—it's this way. When I first came here I was in partnership with another man by the name of Rohrbaugh — he's dead now—and we got a commission from Old Man Liff, to do a small tax payer on that corner. Well, to make a long story short, I convinced Liff that it would be wiser to strain a point, if necessary, and put up a better building. So I worked out that sketch over there and Mr. Liff liked it right off the bat. He was an old friend of my partner's and Rohrbaugh helped me a lot with the deal. In one way it was reviving an idea that those two old fellows had long talked of, and Rohrbaugh had sketched around on a twelve story. And I worked this sketch up," he concluded rather lamely and shifted a bit in his chair.

"Then really the architects for the building were you and Mr. Rohrbaugh?"

"I suppose that's right," he replied, very evasively, I thought.

"Now Mr. Lore, I don't want you to think me personal in any way and I am seeking after knowledge, truly. I wonder if you will answer a few questions, which

I assure you are put simply for the purpose of righting my ideas." Then I went on to sift this business to the bottom of the sifter. I finally got actual facts from Lore. Rohrbaugh, his partner at the time, had worked with Mr. Liff for many years; was his architect for several projects. Liff had wanted to erect one larger edifice before he passed on, and, between them, they had developed the scheme for the Telegram Building. Lore, a talented, energetic architectural draftsman had been working for Rohrbaugh and eventually the older man offered him a partnership which Lore quickly accepted. Then, with full consent of Rohrbaugh, Lore began the more active management of the office, including the completion of commissions that had hung fire for years. The Telegram was one. He told me that his partner had not only designed the structure but, in an effort to benefit his health, that he had also acted as superintendent of construction. "After all," he confessed, "it was the old man's baby and he was doing it for a friend, too. Rohrbaugh was really the architect, in every sense of the word."

"One more question," I said. "What parts did Harry Richter and J. Johnson Winkler play?"

"J. Johnson Winkler? J. Johnson! Sure, Jack Winkler, you mean. Why, Jack was a draftsman for us; maybe he traced some of the larger scale details. He's working for Palmer and Stephens now, and they're in our old office, the one I left to come here. Richter was working for George Ferguson, structural engineer. I suppose Harry was a squad boss, or something. Why? Do you know them?"

"Yes. I've met them both. Nice fellows —but 'twas just an idle question. Say, old man, I've got to rustle along; leave on the 5:10. No end of thanks for your time, and information. It clears up a lot for me and I have enjoyed the talk. Any time you're in my town, stop and see me," and I left.

Although this experience of mine was revealing, to say the least, I dropped it from my mind until after dinner. Then, in the smoking compartment, speeding along —as we are now—I began a desultory conversation with an athletic looking fellow. In the rather long intervals, between our remarks, I thought how fortunate I had been in finally tracing down the architect for the Telegram Building. Mr. Rohrbaugh was the man, as Lore had admitted. I wondered why architects didn't put plates on their buildings, like those used on bridges. Lore had said that Rohrbaugh was a very shy and retiring man. Such fellows need a brass plate to talk for them.

"Here's Rochester, already," said my companion, glancing at his watch, "and right on time, too. I remember this town well. I built a coupla buildings here and one in ————————," naming the city I had left.

"Quite a business—building—isn't it?" I remarked. "What building did you build in ————————?"

"I built the Telegram Block there for Old Man Liff."

"Is that so? Do you mean that you prepared the plans for it—are you the architect?"

"H-e-l-l no!" he replied, "I was the carpenter foreman."

"Oh, I see," said I.

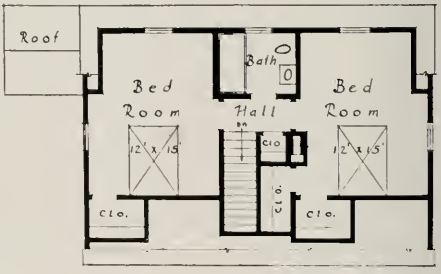
Awarded Honorable Mention in 1932 Better Homes in America Competition
Other Awards Appeared in April Number

HOUSE OF ROLLIN C. CHAPIN

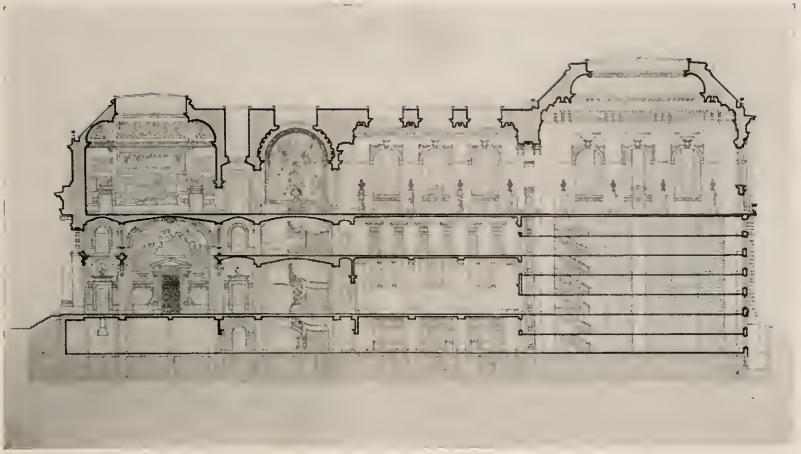
ROLLIN C. CHAPIN, ARCHITECT

Awarded Honorable Mention in 1932 Better Homes in America Competition

HOUSE FOR MR. JOHN J. FARRELL
Charles S. Keefe, Architect



PLANS. HOUSE FOR MR. JOHN J. FARRELL
Charles S. Keefe, Architect



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Howard and Cauldwell, Architects

The Graphic Side of a Great Architect's Accomplishments

Third of a Series of Portfolios of Work by the late John Galen Howard, F.A.I.A.

In this portfolio is presented plans for the New York Public Library, placed second in a competition conducted by the New York City Library Trustees, October, 1897. John Galen Howard was at that time senior member of the firm of Howard and Cauldwell, Architects, with offices at 10-12 East 23rd Street, New York City.

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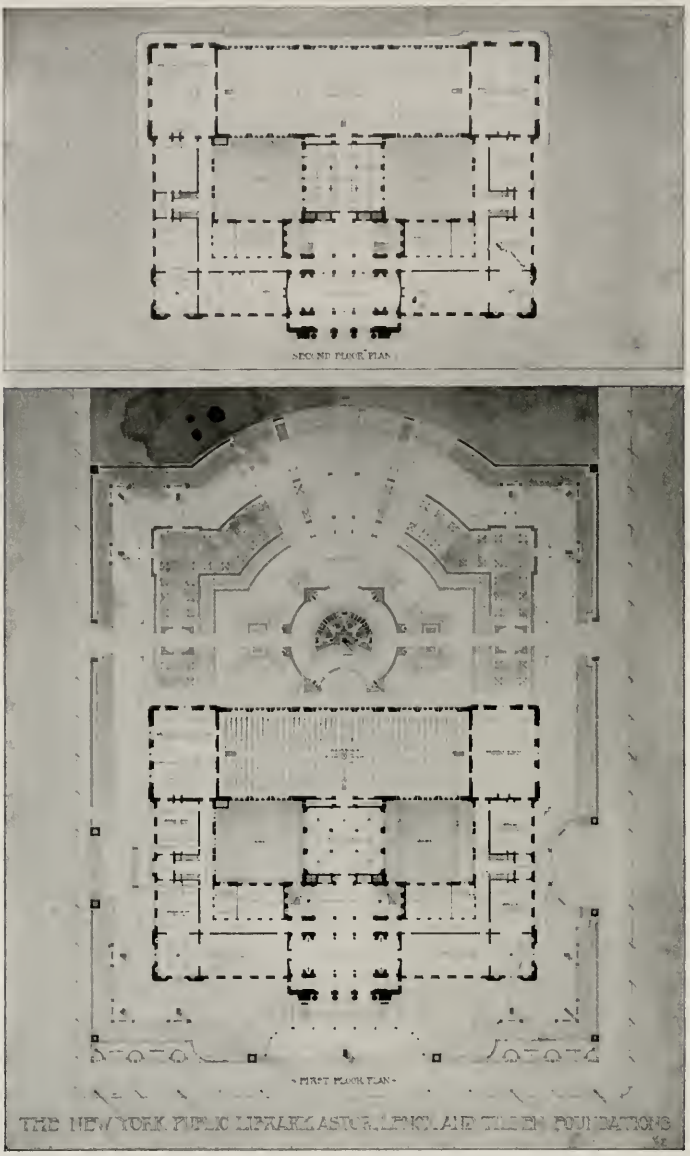

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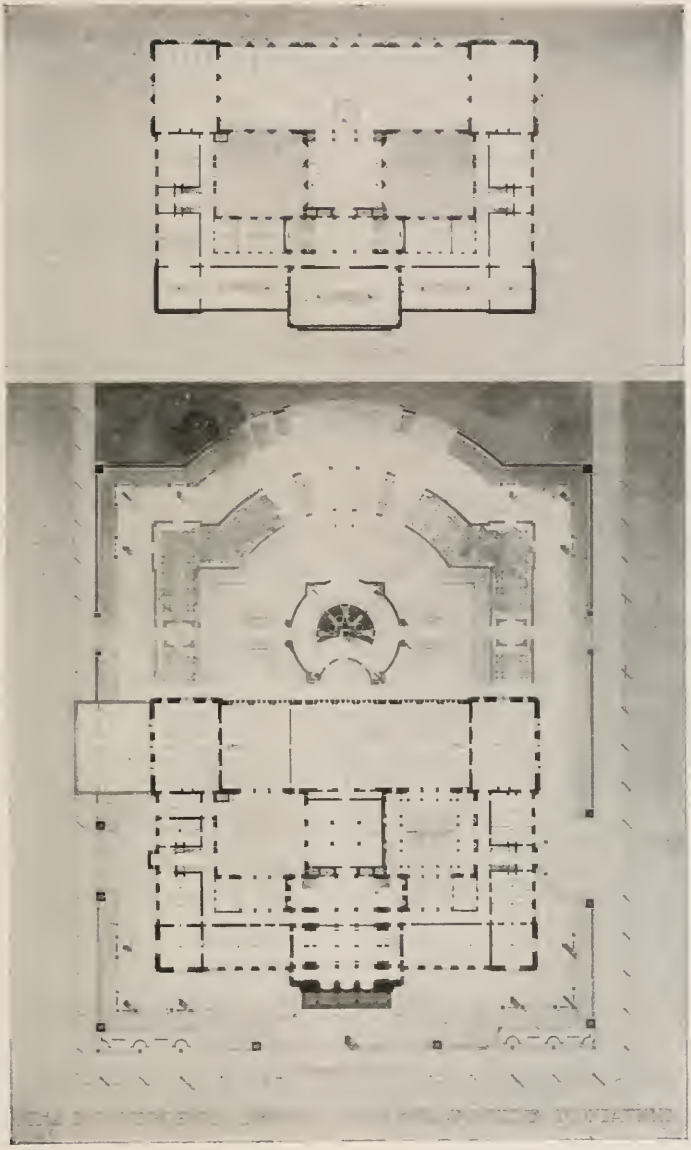

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HOWARD AND CAULDWELL, ARCHITECTS

PRELIMINARY SKETCH FOR A RESIDENCE IN SOUTHERN CALIFORNIA
H. ROY KELLEY, ARCHITECT

VICISSITUDES OF A YOUNG ARCHITECT

by

ELMER GREY, F. A. I. A.

Seventh of a Series of Reminiscent Sketches of Early Architectural Practice of the Author

ON the return journey Mrs. Jones' mental condition was a constant subject of conversation between we three who knew about it. She seemed to be getting constantly worse and more desperate. Finally one evening, after a day during which she seemed particularly despondent, we decided that it would be best to tell the captain.

The Consul and I undertook the task. We found him asleep in his stateroom but awakened him and unburdened the whole story. He thanked us but did not evince any particular alarm and shortly dismissed us.

I was much wrought up over it however. I went to bed but tossed about and finally, about midnight, being unable to sleep, I put on a bath-robe and slippers and walked the deck. As I neared the bow I noticed a figure standing there. With a start I at once thought of Mrs. Jones. But upon getting closer it turned out to be the captain. "Hello Grey," he exclaimed, "I guess the same thing is keeping you awake that is me. Let's go to the stateroom and talk it over."

When we settled down there he immediately became very confidential. He reminded me of the letter he had received entrusting Mrs. Jones to his care, of the important position in the world her father occupied. "But entirely aside from that," he exclaimed, "I like her and think she is abundantly worth saving. It is absolutely necessary to get her safely back to San Francisco and I am determined to do it. But I don't know which of two ways to accomplish it. It isn't a matter of seamanship and I value your judgment, so I would like your opinion. This room of mine is large enough to make two. I could partition it off, lock her up in one half, feed her through the door and keep her there until we get back. Or, I can put my deck-boy Joe, who is a dependable fellow, as a watch over her, with instructions not to let her get more than an arm's length away. Which do you think is the better course?"

We both thought that confinement in a stateroom was the surest way, but the captain felt that not only Mrs. Jones, but also all her relatives would never forgive him if he pursued so hard a course. On the other hand we felt that it was placing great responsibility upon Joe to depend entirely upon him. In the end the latter course was adopted, even though it was attended with some danger.

"Joe will like that job," I told the captain, "Mrs. Jones and he seem to be quite fond of each other."

"Well, all the better," said he. "She won't be so apt to resent it and he won't be backward in keeping close to her. I've noticed myself that she's had him around

her a good deal and it looks to me as though it might result in a very pretty romance. Of course this habit of hers is a drawback, but it is not so far along but what with proper management she can be completely and thoroughly cured. The surgeon assures me of that."

So next morning when I found Mrs. Jones in a secluded part of the boat she was accompanied by Joe. As I approached he withdrew some paces, feigning to be busy with a trifling duty. She pretended to be furious because a watch had been put over her but did not suspect that I had anything to do with it. "I can't go anywhere on this ship," she exclaimed, "but what Joe is right at my elbow. Don't you think that's outrageous?"

I agreed that it might be embarrassing at times but told her I thought the captain meant well. "Anyhow," I said, "it seems to me that you might do much worse in the way of a man companion. Come now, be honest about it, don't you think so yourself?"

"How discerning you are!" she said with a smile. "Well, he is a gentleman, and seems to want to have his constant presence not become apparent to other passengers, nor even in fact to me. And I like him so well that I haven't wanted to tell him the why of it. Isn't it unusual that a man of his fine breeding should be found in such a position?"

"Not so unusual," I said. "California is full of such men, either working their way through college, or for one reason or another in a spirit of adventure doing the unusual thing."

"Well," she said, "the only thing that will ever make me forgive the captain is that at least he showed excellent taste when he chose my guard!"

And in such scraps of conversation, in shuffle-board, and in reading of one kind or another, the journey home continued. The weather was marvelously fine and the days and evenings passed with every outward appearance of serenity and complete enjoyment. During the day we passed many coral atolls, those dream-like islands of the South Seas which consist of circular stretches of white sand about a mile or so in diameter fringed with the plumes of cocoanut palms and containing in their centers protected little lakes of jade green water often dotted with the white sails of native canoes. In the evening there were such moonlight nights as are nowhere else to be seen. All congregated on deck and in white duck or other summer clothing pulled their steamer chairs together and swapped stories.

At these gatherings Joe usually seated himself outside the circle and assumed the role of errand boy for the captain. Mrs. Jones, when she was feeling well enough, would occasionally banter him by trying to draw him into the conversation, but to these sallies he merely professed to be entirely incompetent to enter in.

On these nights every star was out. The southern cross was located. The air was still and canvas awnings flapped lazily. Only by going to the bow and listening to the swash—swash—swash of the water as the ship's prow cleaved through it was one reminded how constantly and how far we were traveling.

It was on one such night, and after a day during which Mrs. Jones had seemed particularly low, that she persisted in staying up after everyone else had gone below. At a very late hour I turned in but she and Joe were still there.

Later on—it must have been well into the morning—I was aroused from my sleep by a reversal of the ship's engines and a scurrying of feet on the deck. The latter disturbance soon subsided but the boat slowed down and finally seemed to come to an entire stop.

Although I realized that it had stopped I was too drowsy to do any heavy thinking about it and soon fell asleep again. In the morning, however, things looked differently. I had been the last to leave Mrs. Jones and her companion at a late hour the night before and I knew how badly she had been feeling. So I could not help but connect up the unusual disturbance later in the night with her oft repeated threat.

I made inquiry of the captain but he only gave me a knowing look and changed the

subject. Joe was likewise uncommunicative. All of which convinced me that my suspicions were correct—and these were further confirmed by the fact that Mrs. Jones did not appear at any of the meals and I was told that she was ill. I did not see her again until the day we disembarked and then only for a few minutes.

But a couple of years afterward I ran across Joe in Palo Alto. He had left the employ of the steamship company of course and was very talkative. His story, into which he entered with much detail, was as follows:

* * *

"After all the rest of you turned in Mrs. Jones and I walked the deck for a long while. Suddenly she stopped and said to me, 'Joe, did the captain tell you why he wanted you to attend me so closely?'

"I told her that he had told me that she was not well but just what the trouble was I felt was none of my business.

" 'Well,' she said, 'I care so much for you Joe that I haven't wanted to tell you myself. I've really meant to, but have been putting it off. Joe, I have been taking drugs. They are afraid I will injure myself. They have searched my baggage and taken away all I had. They give me only a very little bit at a time now and I must have more. I want you to get some from the surgeon's closet. I know you have the keys for I heard the captain tell you to go there for him one time.'

"She was right—I did have the keys—but Gosh! I wouldn't use them for that purpose!—and told her so.

"She urged me more and more but of course I wouldn't do it. Then she changed her tactics. As the hour wore on it became chilly. 'Joe,' she said, 'You are not dressed warmly enough.' She wore a long silk coat modeled very full. She disengaged one arm from its sleeve, came up very close to me, and suddenly threw half of it around me, drawing me up to her. 'This is large enough for two,' she exclaimed.

"I would have been in a nice fix if the captain saw me like that, wouldn't I!—so I pulled away.

" 'Well,' she gasped, 'You didn't treat me that way on shore!'

"That was different," I told her, "There I was free, here I am an employee with a job on my hands. The captain would certainly not like it if he found me guarding you that way!

" 'Well, if you insist,' she said, 'but don't you like me?'

"I told her that I liked her so much that it would give me a lot of joy if I knew she really liked me, and I meant it. I was mighty fond of her.

" 'Even after what I have told you about myself?' she said.

"I told her that made no difference.

" 'Then if you really like me that much why, Oh why, won't you help me?' she exclaimed.

"I told her I'd rather help her in a better way.

"Then she seemed to hesitate as though at her wit's end what course to take next. She struck me as being awfully tortured in body and soul. She must have liked me mighty well too and decided to chance all in one last desperate throw. Her voice was broken and pitiful. Here's what she said next:—

" 'Joe, I like you so very much—more than I've told you before—but you don't seem to understand. I am not only very unhappy, I am frantic. I must have some of that drug and have it immediately. I have offered you money, I have offered you love.

"Of course I told her that I was awfully sorry and that I sympathized with her deeply but I just could not do it.

"She leaned over the rail then and stayed there for some time, at first sobbing and afterward quieting down. Once she asked, 'Are there sharks in these waters?'

"Of course," I told her.

"The late hour became still later and still she stayed. I urged her in every way I could to turn in but she would not. We were on the lower deck right near the stern. Apparently she at last gave in and we were about to leave when she asked me for her scarf which was lying on a steamer chair back of me. I went for it and was just

[Please turn to column 2, page 49]

THIS modernly designed, low-cost, fireproof home is attractive because of its simple lines and well-proportioned exterior. It is a modern house that will appeal to many people because its appearance will not become tiresome.

Economical Wall Construction

Taking advantage of the adaptability of concrete masonry to modern design, the architect has specified this economical material for the low, sweeping walls. These may be covered with a finish of Portland cement stucco or Portland cement paint.

Fireproof, durable, rigid qualities of reinforced concrete led to its selection for the first floor and roof. Its use will insure that this modern home is safeguarded against basement and roof fires.

Many Window Openings

The living room is well-lighted, six windows being specified—three for each wall; and the roof projecting over these windows increases the attractiveness of the exterior.

Other rooms also have ample window space. Note the provision for adequate cross-ventilation in each bed room.

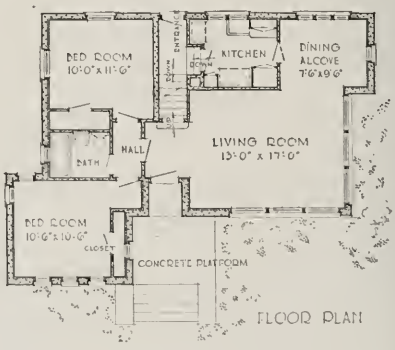
Ample closet space in each bed room should attract the immediate attention of the modern matron.

Low Original Cost

Including every item of construction, this fireproof concrete home is estimated to cost about $4,100.

This cost may vary 25 per cent, more or less, depending upon location and the choice of built-in equipment for kitchen, laundry and bath.

Although the original cost of this attractive home will be low, the design includes many features which ordinarily are found only in higher priced dwellings. The extensive roof area, which may be used for recreational purposes, is but one of these features.



FLOOR PLAN

ENGINEERING AND BUILDING CONSTRUCTION

PRESENT STATE OF EARTHQUAKE RESISTANT DESIGN

by
NORMAN B. GREEN
Structural Engineer

ENGINEERS have been investigating for many years the problem of the design of structures to resist earthquakes. However, as these researches have progressed, it has become increasingly apparent that the subject is one of great complexity and methods of design in this field are never likely to be straight forward and used with the same confidence, as are the methods in other fields of engineering design.

In order to demonstrate this complexity, let it be supposed that it is possible to construct a perfectly rigid building and that this is securely fastened to a firm and unyielding foundation, which vibrates horizontally with a known acceleration a. In this ideal case, illustrated by Fig. 1, the horizontal force P produced by the vibration can be accurately computed by means of Newton's second law of motion, which can be expressed in the form:—

$$P = \frac{W}{g} \times a$$

In which W is the weight of the building and g is the acceleration of gravity. Newton was also able to prove that this resultant force P, which is generated by the inertia of the building, will act through the center of gravity C of it's mass.

For this imaginary case, therefore, the forces would be completely determinate and the unit stresses produced in the building structure could be computed by the usual methods of strength of materials. To be sure the problem offers considerable difficulty, owing to the complicated stress conditions that exist in a multi - storied frame and to the uncertain resistance offered by walls and partitions; however new methods of analysis applicable to such frames are now available and progress is being made also in allowing for the added resistance offered by walls and partitions, so that a quite close approximation to the true stresses can be secured.

Considering now the case of an actual building, this is constructed of materials that give under stress and it cannot therefore be made perfectly rigid but it can be made stiff enough to satisfactorily meet the requirement of rigidity, providing its height and the ratio of its height to its width is not too great. This limiting height, for the usual methods of construction, is generally

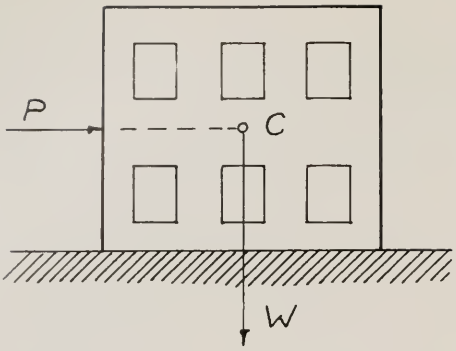


Fig. 1

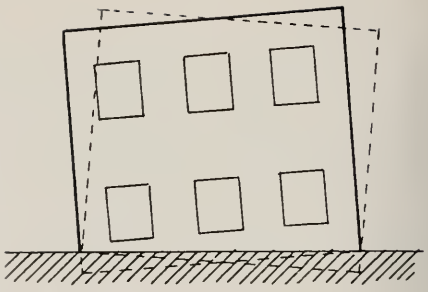


Fig. 2

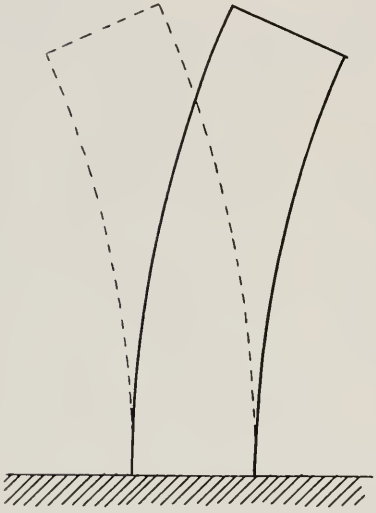


Fig 3.

placed at eight to ten stories and so called rigid buildings of this height have been constructed in Japan which have sustained little or no earthquake damage. Even for the case of such a building however, there is a factor of uncertainty presented by the foundation, since if this is on compressible soil, it has been found that the structure will rock back and forth during the earthquake motion, as indicated in Fig. 2. Thus the upper portion of the structure does not move with the ground and its acceleration is unknown, so that the forces acting upon it cannot be computed. In as much as the science of soil mechanics is in its infancy a prophecy is probably dangerous but it now seems very unlikely that the extent of this rocking motion will ever be a subject of calculation. The obvious solution therefore is to stiffen the foundation by the use of piles or caissons, so that the uncertainty presented by this rocking motion will be largely eliminated. On the other hand such cushioning action of the ground during an earthquake appears to relieve the intensity of the shock, for rigid buildings located on soft soil; so that it may be that it is better to make full use of this circumstance and abandon any attempt to calculate the lateral forces produced by the earthquake shock. In which case every effort should be made to secure a stiff building, that will act as a unit with its foundation.

The case of a high building is even more complicated, since with the usual methods of construction it is not practicable to secure a so called rigid structure. The building will bend laterally under the action of an earthquake shock, as indicated in Fig. 3, so that its upper portion does not move with the ground, even if the founda-

tion is rigid. The acceleration is therefore unknown and the earthquake force acting cannot be directly computed. If, however, the maximum deflection of the structure from its normal position is known, the corresponding lateral force can be computed and with it also the unit stresses thereby produced. Investigators have, therefore, for many years been trying to develop a means for calculating the extent and character of this deflection. This has been accomplished for the case of very simple structures, when these are subjected to what is known as simple harmonic motion; but when it is considered that the actual earthquake motion is not simple harmonic and that the building structure is highly complicated, it seems almost hopeless to secure a mathematical solution.

It has been proposed that high buildings might be constructed with a very flexible lower story, the original idea being that the earthquake motion will be absorbed in this flexible story, so that the upper portion of the structure will not be subjected to the earth acceleration and therefore need not be designed to resist a lateral earthquake force. Actually, however, such a structure is a flexible vibrating system and its maximum deflection under earthquake shock must be determined. While the dynamics of this type of structure is much simpler than is that for a high building that is flexible throughout its entire height, as indicated in Fig. 3, nevertheless there is the uncertainty presented by the earthquake motion, regarding which our knowledge is at present very elementary.

There are also what may be termed experimental methods by which the problem presented by the flexible building can be attacked. One of these which shows great promise is the use of the shaking table, which is simply a flat surface that can be vibrated horizontally with a reciprocating motion, to simulate an earthquake. Small models, which have mechanical similitude with full sized structures, are placed on this table and shaken, while observations are made of their vibration and deflection. The first difficulty with this method is to secure models that actually are similar to the full sized structures and the other difficulty is to duplicate the earthquake motion, since our present knowledge of its characteristics is in a very elementary state, as will be referred to later.

To construct a dynamic model for a bare steel or concrete frame would be relatively easy but when walls and partitions are added, the best that can be hoped for is a more or less rough approximation. Another method of investigation that presents itself, is that of actually measuring simultaneously the acceleration and unit stresses produced in a building by an earthquake. This is the most direct line of approach and in the course of many years and many earthquakes, probably a large mass of the resulting data of great use to designers will be available; but at present little or nothing has been accomplished along this line, while the design of earthquake resistant buildings must be carried forward.

There remains the possibility of constructing high buildings that are sufficiently rigid to limit the deflection and permit of a fairly close calculation of the earthquake forces. It seems that the building material that offers the best possibility of success in this direction is reinforced concrete and the writer has shown in an article that appeared in the *Engineering News Record* for September 3rd, 1931, that it is economically feasible to construct a thirty story tower building with reinforced concrete bracing walls of sufficient strength to resist a heavy acceleration. The next step will be to determine the natural period of vibration of such a building, in order to see whether or not it may be classed as a rigid structure. It seems more than likely that it will meet this rigidity requirement but in any case such a building will offer a high resistance to earthquake forces, while its relatively great stiffness will enable these forces to be computed more closely than is possible with any other type of high building construction. The fact that the vibration period of a structure varies with its weight, suggests also the use of light materials to secure a rigid building. It may be that the future skyscraper in seismic regions will be of all steel construction, although this will offer difficulties with heat insulation and fire resistance.

It may be well to pause at this point in the discussion in order to stress again the fact that the terms "rigid" and "flexible", as applied to building construction, are merely relative; since no engineering structure can be made rigid, while the deflection of the so called flexible building, even in a violent earthquake would be nearly imperceptible to an outside observer. The term "rigid construction" first arose among Japanese engineers to describe a low type of building having massive masonry bracing walls and thoroughly tied together, so as to act as nearly as possible as a monolith. The two terms are merely used for the convenience of engineers in describing the manner in which the building acts during an earthquake and there is no hard and fast line which separates the two types.

It has been assumed in this discussion that the acceleration of the earthquake motion is known but that is actually far from being the case, which results in still another factor of uncertainty. It may seem strange that such a condition exists, when earthquakes have been studied intensively for over a century. However, this work has been mainly in the hands of seismologists and geologists who are not primarily interested in the damage to structures but in other problems relating to the earth's crust. It is only comparatively recently that engineers have taken a hand in these studies and the seismic coefficients that are used in design are at present largely derived from their observations of the effect of earthquake shocks upon structures, supplemented by overturning tests of piers and columns placed on the shaking table. This method permits only a rough determination of the actual earth acceleration and errors of as much as 50% may easily occur. It is only very recently that reliable instruments have been devised that will actually measure and record the acceleration that occurs in the destructive zone of a violent earthquake and so far no record of this kind has been secured for a major shock. With the necessary instruments now available however, it is only a matter of time when reliable values of the seismic coefficient will be secured and in the meantime it behooves engineers to be conservative in their assumption of values of the acceleration for use in design.

STATE HIGHWAY BRIDGE TOWED DOWNSTREAM TO NEW LOCATION

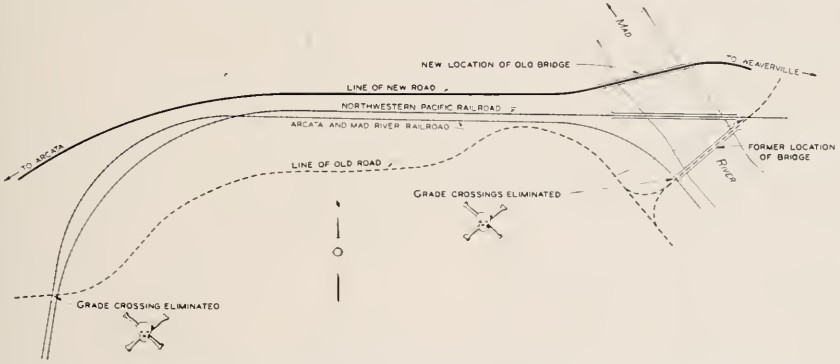
AN example of the economical use of available material for immediate and future requirements was the recent relocation of an old bridge over the Mad River near Arcata, Humboldt County, says a writer in the "California Highways and Public Works."

In the earlier days of road building, the location of roads and bridges was governed not so much by standards of grade and alignment as by the contours of the ground and low construction cost. The county road from Arcata to Mad River and up the river to the lumber town of Korbel followed closely the foot of the hills. The tortuous alignment with sharp, blind curves and numerous railroad grade crossings had fallen far behind the present day standards expected by the motorists, even on secondary roads.

Since becoming a part of the California State Highway System this road has been extended east to Weaverville and a connection with the road from Redding, thus forming a link between the Redwood Empire and the upper Sacramento Valley, and providing access to large recreation areas in Trinity and Humboldt counties. The traffic is largely seasonal and, except for some local trucking, is principally tourist or pleasure cars.

The old road had many curves with radii as short as 50 feet. There were two rail-

PRACTICAL ECONOMY IS REPRESENTED in this old Mad River Bridge moved to a new location, abolishing four railroad grade crossings.



PLAN SHOWS HOW STATE HIGHWAY BRIDGE WAS RELOCATED TO ELIMINATE DANGEROUS GRADE CROSSINGS

road grade crossings with the Northwestern Pacific and the Arcata and Mad River railroads, respectively. At Mad River the stream was crossed with an old county bridge of 285-foot steel span with 15-foot roadway. This structure had railroad grade crossings at each end, both of which were blind. The hazard created by these railroad crossings made a very dangerous situation.

To correct this condition a new road has been constructed entirely on the north side of the railroads, as shown on the sketch, thereby eliminating four grade crossings and substituting wide curves for the short turns.

A problem of economy was encountered, however, at the river crossing. A new bridge of this length and up to present standards would cost at least $50,000. Since the traffic on this route is comparatively small and the loads light, the possibility of using the old steel span was considered. It was found that although the old span had been in place for over 25 years and through exposure to salt air and fog had rusted badly in spots, it could be repaired and used for this crossing for many more years.

This plan was adopted and a contract was made for the removal and replacement of the span on new pile piers on the new line, some 250 feet downstream. This arrangement involved moving a 285-foot steel span over, under, or around a railroad bridge and setting it up on new piers. At first thought the difficulties of moving such a large structure, and in addition crossing a railroad without blocking traffic, appeared almost insurmountable.

Actually the work was accomplished quickly and easily by removing the connecting pins, taking down the truss members, piece by piece with tall gin poles, and skidding the pieces down the river bar to the new site where they were hoisted into position and pinned.

Because of the efficient handling, the dismantling was completed in six days and the reerection in seven days. A small percentage of steel and the expansion rollers were replaced. A large percentage of the timber deck and timber in the approach spans was used at the new location so that only slight expenditure for new material was required.

The result of this procedure was that the state has provided a suitable bridge across the river, which will serve for many years, at a cost of about $11,000 or a saving from the cost of a new bridge of about $40,000. D. E. Marsh was the resident engineer.

STEEL COLUMNS INCASED IN BRICK WALLS

The steel columns in a building are usually designed to carry the entire loads to which they are subjected without taking into consideration the possible strengthening effect of the solid masonry walls in which they are incased. Lack of definite, authoritative information on the relative strengths of bare and incased steel columns led to a study of this subject by the Bureau of Standards.

Preliminary investigations and tests were made on both bare steel columns and columns incased in brick masonry for the purpose of determining whether, for design purposes, such columns should be considered as structural members which would fail by bending at comparatively low loads, or whether the brick walls could be relied upon to restrain lateral bending thereby permitting higher loads by eliminating or materially modifying the slenderness factor. The possibility of an increase in strength through the partial transfer of load from steel to the incasement by the bond between them was also considered.

Nine steel columns, three bare and six incased in brick wall sections, were tested. These columns were six inch, Bethlehem H sections at twenty pounds per foot and twenty-three feet in length, the ends of each being machined with a face mill. The brick walls were fourteen inches in thickness, six feet in length and twenty-two feet, four inches in height. The six incased columns were divided into two groups of three each for the purpose of comparing the effect of orientation in the wall. Both bare and incased columns were tested to

failure in compression, deflection and compressometer measurements being made on each.

The bare columns failed by bending at the mid-length, but the brick walls prevented the bending of the incased columns, so that failure did not occur until the load was great enough to cause failure of the unincased ends. Measurements made during the tests showed that the steel in the incased portion of the columns was stressed on the average, less than one-fifth as much as was the steel in the bare columns under the same load. There was practically no lateral deflection of the incased columns during the test.

Results indicate that the incased sections were much stronger than the bare specimens. This may lead to considerable economy in the design of steel frame structures without affecting the safety. These tests, however, represent only one set of conditions in the general problem of the effect of masonry incasement on the strength of steel columns and a more comprehensive investigation will be needed to develop the possibilities of other conditions which may enter into this complicated problem.

With steel columns of this particular size, incased in brick walls of the quality used, the following conclusions were reached:

1. The brick walls effectively prevented lateral buckling of the steel columns so that the maximum compressive load for the structure was, for all practical purposes, the maximum compressive load for the portion of the steel column above the wall, which in turn was, for all practical purposes, the tensile yield point of the steel multiplied by the cross-sectional area of the steel column.

2. The maximum compressive load carried by the short unincased portion of the steel columns was greater than the maximum compressive load carried by the long unincased columns (slenderness ratio 183) which failed by lateral buckling.

3. The lateral deflection of the incased columns was negligible because in no case did it exceed 0.03 inch under the maximum load. The brick masonry showed only small cracks at the top near the steel columns.

4. Over the gage length of 150 inches at mid-height of the incased columns, the steel carried, on the average, less than twenty per cent of the applied load.

5. The orientation of the steel column with respect to the face of the brick wall had no effect upon the strength of the encased columns.

A complete report on this test will be found in the Bureau of Standards, Journal of Research, Vol. 10, No. 1, January, 1933.

THE VICISSITUDES OF A YOUNG ARCHITECT

[Concluded from Page 41]

picking it up when I heard a rustling sound. When I turned I saw her slide over the rail!

"Instantly I tore a life buoy from its fastenings and pitched it over. Then I yelled 'Man Overboard' and leaped after it! When I came up I saw foam around the ship's stern and knew she had reversed her engines. I guess the silk coat Mrs. Jones was wearing caught a lot of air as she jumped for something kept her up and I could see her plainly in the moonlight. I soon got her and dragged her over to the buoy and it wasn't long before I saw them come with a boat.

"She clung to me desperately even after we got in and once she whispered barely audibly, 'Joe, you saved my life—now what are you going to do with it?'

"I told her, 'I am going to keep on saving it', and I meant it. Her father wanted to reward me with cash but of course that didn't belong in the picture. We should have married by rights I suppose, but I had my future still to make and we gradually drifted apart. I haven't heard from her for a long time."

INVERNESS COUNTRY HOME

Bruce Johnstone of Chicago, has had plans prepared by W. C. Ambrose, architect, 244 Kearny Street, San Francisco, for a $12,000 rustic house at Inverness, Marin County. Construction is to go forward this summer.

CLAREMONT HOTEL, BERKELEY, CALIFORNIA
C. W. Dickey, Architect

ENGINEERS' HOUSING PLAN

In keeping with the tendency of the times to modernize, thereby increasing the value of real property and helping to relieve the unemployment situation, the Hotel Claremont, Berkeley, has recently completed some needed improvements about the hotel and grounds. A new elevator is one of the major betterments, while the driveway from the Tunnel Road to the front and rear entrances, has been resurfaced and placed in splendid condition for guests who have motor cars.

The hotel management announces a unique housing plan for engineers, contractors and others who may be employed on the new Bay Bridge and other transbay building projects soon to get underway. The plan includes a large, airy sunlit room 18x21 feet, with commodious closet and bath, together with private office directly across the hall or adjoining the room. The office rooms will be equipt to suit individual needs with wall space for maps, overhanging lamps, etc. These rooms will be at the entire disposal of the engineers. The hotel is reached by the Key Route ferry and trains, which latter run directly to the hotel door. The Claremont enjoys a quiet, homey atmosphere with superb view of the Bay and is a central point for attractive motor trips.

BOOK REVIEWS

By Edgar A. Kierulff

AN INTRODUCTION TO ARCHITECTURAL DRAWING—By Wooster Bard Field, A.I.A. (Associate Professor of Engineering Drawing, The Ohio State University). Published by McGraw Hill Book Co., Inc., New York. Price $2.50.

Being an introduction to a subject of great scope, this book sounds as its principal keynote, simplicity. And for the architectural student just beginning his work, or for the high school graduate contemplating a drafting career, it should prove an interesting manual and guide. The book is profusely illustrated and contains besides some interesting sketches and simple plans, the usual mechanical requirements for a beginner in architectural drawing.

INDUSTRIAL PIPING, a case book of proven practices and methods (Engineering Publications, Inc., Chicago). 279 pages, $3.50.

Since the publication of the first issue of Heating, Piping and Air Conditioning in June, 1929, each month has seen the inclusion in its pages of articles of practical value and interest to engineers in industry.

The present volume is a selection of the material covering one phase of the magazine's threefold program. The value of the material is in the fact that it has been written by men who are daily solving the problems of industrial piping; and, further, in that the data given represents a combination of the precision of theory and the practicality of actual working conditions.

The twenty-three chapters of the book cover, in a general way, an introduction to the subject of industrial piping, a new series of tables for economical steam pipe sizes for heating, process and power steam, pipe bends, design of piping for process plants, for high-temperature lines, for a mile-long underground line; steam coil installation, the economical thickness of insulation, the handling of viscous liquids, trap installations, air piping, refrigeration piping, etc.

There is a very generous number of drawings, charts and tables, and an index aimed at making reference easy and convenient.

« « « « With the Architects » » » »

COMPLETE STORE BUILDING

Will P. Day, architect, 405 Montgomery Street, San Francisco, is completing plans for finishing the interior of the two story Class C store and loft building at Powell and O'Farrell Streets, San Francisco; C. G. Minifie, owner. Mr. Day is also at work on drawings for a bottling plant for the Pacific Brewing & Malting Company of Sacramento, and improvements to the Fredericksburg Brewery at San Jose.

The office of Mr. Day is also busy on plans for alterations to the third and fourth floors of the Sir Francis Drake Hotel, which are to be occupied by the Bohemian Club while their new building is under construction.

SAN FRANCISCO FEDERAL BUILDING

Possibility of readvertising for bids for the proposed new Federal Building in the Civic Center, San Francsco, loomed as Arthur Brown, Jr., architect, returned from Washington recently where he was in consultation with Federal officials. Bids were taken for the building just prior to the incoming of the Roosevelt administration, since which time the work has been held in abeyance. It is possible that revision to the plans, reducing the cost somewhat, will be ordered and this will mean readvertising. As an Eastern contractor submitted the low bid on the original plans, this will be welcome news to local builders.

CLASS A PLANETARIUM

Plans are being prepared in the office of John C. Austin and Frederic M. Ashley, 608 Chamber of Commerce Building, Los Angeles, for a Class A planetarium to be built in Griffith Park for the Los Angeles City Park Commission. Building will contain halls, library, work rooms and offices and will cost $250,000.

SCIENCE CHURCH READING ROOM

Plans are being prepared by Henry H. Gutterson, 525 Powell Street, San Francisco, for a $15,000 reading room and apartment for the Christian Science Society of the University of California, at Durant and Bowditch Streets, Berkeley.

WALTER C. CLIFFORD BUSY

Walter C. Clifford, architect, 3299 Washington Street, San Francisco, is busy on working drawings for a large country house of English design to be built near Grass Valley, California, at a cost of $150,000. Construction is expected to go forward this summer. The same architect has completed plans and has taken bids for a two story, stucco dwelling in Vallejo for Mr. and Mrs. Curt Broadbeck.

NEW HIGH SCHOOL UNIT

The office of Dragon & Schmidt, architects, 3016 Telegraph Avenue, Berkeley, has been commissioned to prepare plans for the first unit of a high school at Ramona and Garfield Avenue, Albany, to cost $25,000. Construction will be frame and reinforced concrete. There will be eight rooms. Eventually forty rooms will comprise the layout of the school, which will be known as the Herbert Hoover Jr. High.

EXTENSIVE ALTERATION WORK

A complete remodeling of the four story building on Market Street, between Fourth and Fifth Streets, adjoining The Emporium, San Francisco, is to be undertaken by the Lincoln Realty Company, owners, for the new lessee, the J. C. Penney Company, who operate a chain of stores throughout the country. Approximately $50,000 will be expended.

BOHEMIAN CLUB BUILDING

Contract has been awarded to the Dinwiddie Construction Company to erect a four story Class A club building on the northeast corner of Post and Taylor Streets, San Francisco, for approximately $600,000. Lewis P. Hobart is the architect.

BOTTLING PLANT

Leland T. Rosener, C. E., 233 Sansome Street, San Francisco, is preparing plans for a Class A bottling plant for the Rainier Brewing Company at 1550 Bryant Street, San Francisco. The alterations, extensions and equipment will cost about $150,000.

CHAPEL AND CREMATORIUM

F. H. Slocombe, architect, 131 Monte Vista Avenue, Oakland, has prepared drawings for a reinforced concrete chapel and crematorium at Oakhill Cemetery, San Jose.

Resing & McGuinness, architects, San Francisco, have completed plans for completing the interior of the mausoleum at Mt. Olivet Cemetery, San Mateo County, the work to cost about $15,000.

FIVE STORY APARTMENTS

At 19th and Church Streets, San Francisco, George M. Eastman, 209 Mississippi Street, San Francisco, will build a five story reinforced concrete and frame apartment building, from plans by S. Heiman, architect, and Ellison & Russell, structural engineers. The owner will spend about $45,000 on the improvements.

FRENCH RESIDENCE

J. Lister Holmes, Seattle, president of the Washington State Chapter, A.I.A., has completed plans for a French Eighteenth Century residence to be erected for John Baillargeon in the Madison Park District, Seattle.

LIBRARY FOR EVERETT

Bebb and Gould, architects, Hoge Building, Seattle, are preparing plans for a modern library in Everett. The project will be financed by the proceeds of a $75,000 bequest from the late Leonard Howarth, pioneer lumberman on Puget Sound.

CHRISTIAN SCIENCE CHURCH

A new Christian Science Church will be built at Monterey from plans by Swartz & Ryland, architects. The edifice will be frame and stucco and will cost $8000.

SKETCHES FOR POST OFFICE

O'Brien & Peugh, 233 Montgomery Street, San Francisco, have completed preliminary plans and are awaiting their approval from Washington, for a post office building at Salinas to cost $150,000.

W. E. SCHIRMER BUSY

W. E. Schirmer, Financial Center Building, Oakland, has completed plans for a $9000 residence in St. James Wood, and also a $5000 Spanish dwelling in Montclair Highlands, Oakland.

SEATTLE EXHIBIT

Graduates of the Fountainebleau School of Architecture held an exhibit and promotion meeting on April 5 at the Cornish School, Boylston Avenue and East Roy Etreet, Seattle. Carl F. Gould, member of Bebb and Gould, explained the purpose of the American School at Fountainebleau, France, and Harlan Thomas, member of Thomas, Grainger and Thomas, and head of the architectural department at the University of Washington, told about opportunities for obtaining scholarships at the European center.

Former Fontainebleau students who took part in the exhibition were A. E. Hennessy, John Villesvik, Harold Loners, Harry Wolfe, Richard Lytel, Welton Becket, John T. Jacobsen and Paul Thiry. Student speakers were Miss Hope Foote on interior decoration, Edna Grace Benson on music, and Mr. Jacobsen on fresco.

GRANTED CERTIFICATES

At the meeting of the California State Board of Architectural Examiners, Northern Division, April 25, the following were granted Provisional Certificates to practice architecture in the State of California:

Michel Goodman, 1780 Highland Place, Berkeley; Clarence Mayhew, 6026 Acacia, Oakland; Jens C. Petersen, 812-26th Street, Sacramento; Henry Temple Howard, 251 Kearny Street, San Francisco.

A RESIDENCE ON ROOF

Plans have been prepared by H. A. Schoening of Grimes & Schoening, 235 Third Avenue, San Mateo, for a one story, Class A residence to be built on the roof of the nine story Oxford Hotel at Turk and Mason Streets, San Francisco. The house will be occupied by the owner of the property, Arnold Haas. The structural plans for the improvements were made by W. Adrian, 417 Market Street, San Francisco.

SUMMER COTTAGES

Walter C. Falch, Hearst Building, San Francisco, has completed plans for two summer cottages at Mill Valley, Marin County, for F. Schaeffauer. They will cost approximately $2500 each.

VETERANS' MEMORIAL BUILDING

A. W. Storey of Watsonville, has been commissioned to prepare plans for a two story Veterans' Memorial building at Watsonville, to cost $50,000.

Chapter and Club Meetings

WASHINGTON STATE CHAPTER

The regular monthly Chapter meeting for April was held in the Gold Room of the New Washington Hotel, Seattle, Wednesday evening, April 6th.

At the conclusion of the dinner President Holmes asked Lance Gowen and Harlan Thomas to present resolutions that had been prepared on the recent passing of two Chapter members, Ernest R. Williams and James H. Schack. These resolutions were unanimously adopted.

The secretary read a letter from the Seattle Real Estate Board congratulating the Chapter on the recent Small Homes Exhibit at the Bon Marche, and suggesting some possible future newspaper publicity in the interest of small house building.

Mr. Vogel, chairman of the legislation committee, reported that, as it was evidently impossible to secure any beneficial legislation relative to the licensing of architects at the recent session of the State Legislature, no campaign to amend the existing law was attempted. It was felt that the best result that could be hoped for was to have the law left as it is.

President Holmes reported briefly on the advance planning of public works.

For the program committee, Donald Thomas suggested the desirability of arranging future meetings to avoid expense as much as possible.

Prior to hearing from Mr. Shorett, of the Seattle Board of Education, the speaker of the evening, President Holmes asked for some expression from the Chapter members present on the subject of education in the schools as affecting the study of architecture. Professor Harlan Thomas, head of the Department of Architecture at the University of Washington, did not believe that proper provision was made to teach architecture in the high schools. The teachers were not adequately trained to teach the subject. Mechanical drawing as a preparation for future architectural study was considered detrimental. He believed that the students should preferably be given free hand drawing.

John B. Shorett expressed himself as gratified by the views given on the architectural teaching in the schools, and believed that the Chapter should place its views on the subject definitely before the Board of Education. In his address which followed Mr. Shorett took a hopeful view of the present condition of society. All men were alike fundamentally. In dealing with them we should begin at the bottom; get them to understand our objectives. Stress was placed on the necessity of our seeing things as a whole and the planning and securing of cooperation in the carrying out of the plans.

Relative to the present monetary situation, Mr. Shorett believed that as Congress was charged with the duty of determining the value of money, it should see that this circulating medium was adequately provided. With particular reference to the present school crisis, he presented a plan for the issue by the national government of currency in support of school warrants in line with a general principle of expansion of currency in time of deflation, with a retraction in boom times.

President Holmes then introduced Richard Lytel, formerly a Fontainebleau scholar, and graduate of the Department of Architecture, University of Washington, who gave in an interesting manner, a brief history of the foundation of the school, and described its buildings and surroundings with reference to their historical association and other attractions.

TACOMA SOCIETY OF ARCHITECTS

Four meetings were held during March by the Tacoma Society of Architects, Ernest T. Mock, president, and A. J. Russell, secretary.

March 6—R. E. Chase spoke on "Get Busy, America!" This talk outlined a plan for the reorganization of our social and industrial system.

March 13—C. W. May, mechanical engineer, spoke on "New Ideas in Heating, Panel Heating, Etc."

March 20 — Mr. Ryan of the Weyerhaeuser Timber Company talked on "Improvements in Structural Details, and the Northwest Lumbermen's Technical Council."

March 27—Kim Comfort of the Pierce County Relief Commission, and J. L. Bossemeyer of the Metropolitan Park Board addressed the society on "Construction Projects as Relief Work in Tacoma and Pierce County."

ARCHITECTS URGE SAFETY LAWS

Members of Southern California Chapter, American Institute of Architects and the State Association of California Architects, met in joint session at the University Club in Los Angeles, April 4. Following the meeting the board of directors of both bodies met to draw up a set of resolutions, petitioning the Legislature to pass an enabling act making it mandatory on every district in the state to make its building regulations more rigid.

John C. Austin acted as chairman of the meeting. In opening the program he said in part: "It has taken an earthquake to bring us together. I believe we shall do what Western men have always done in an emergency—band together to bring order out of chaos. Lessons learned from other earthquakes and talk of regulating ordinances were soon forgotten. We must now provide laws that will create the best type of building throughout the state and work for better ordinances."

Professor Allen Sedgwick, seismologist, who acted as technical expert for the coroner's jury that investigated the deaths in the recent earthquake, warned against lax methods in erecting buildings in fault zones. "Locate these zones," he stated, "giving structures which must be built there special treatment, and keep your public buildings outside these zones." Professor Sedgwick informed the gathering that maps were being prepared showing the locations of faults and special data on which to base future ordinances. "Architects of schools and committeemen have been severely criticised," he said, "but you must remember that schools have high ceilings, large windows and large floor areas with longer spans. Naturally this type of building would have less resistance to earthquakes. The type of ground on which it rests and the shape of the building, with relation to the direction of shock waves, are important factors."

E. M. Scofield, also a member of the coroner's jury, stated the thing to remember to avoid these things is to build properly and pay attention to detail. He estimated the added costs of buildings, constructed to provide against earthquake damage, would run from 3 to 7 per cent. Mr. Scofield concluded by pointing out weaknesses in design and some building materials, and suggested remedies to overcome these weaknesses.

Paul E. Jeffers, taking the technical side of the discussion, said in part: "During earthquakes, the tendency of buildings is to follow the motion of the ground and this is to be taken into account when designing the structure. The problem of the engineer is to design the building so that it will move with the earth or have enough resiliency to withstand the movement. It is the horizontal forces that put stress on a building and cause most of the damage, not the vertical forces."

Dr. G. G. Martel, structural engineer on the faculty at California Institute of Technology, speaking of major earth shocks, gave some statistics on property damage and loss of life during the shock of 1923 in Tokyo, Japan. Touching on building construction, he stated that all structural members should be of the same rigidity, and that proper design would eliminate practically all hazards. "Employment of the best practices in constructing our buildings," Dr. Martel said, "would enable the Chamber of Commerce to adopt the slogan:' 'Come to California and enjoy the earthquakes.' "

Dr. John Buwalda, geologist on the California Institute of Technology staff, used as the subject of his address: "Have earthquakes ceased or may we expect more?" We must expect more, according to the doctor, for the structural geology of the state is pretty well sliced up. "This is not an alarming prediction," he said, "for an average of 75 shocks each month occur within a radius of 250 miles of Pasadena. Few of these shocks are felt but they indicate minor adjustments are intermittently taking place under the earth's crust." Dr. Buwalda added that the largest fault in this district—the San Andreas fault—is not a menace to the Los Angeles metropolitan area as it is too far removed. "The risk is mainly from closer faults which are short," he said, "and probably will not develop serious shocks. As for tidal waves, they are produced mainly where the movement is vertical causing an upthrust of water. Most major slips in this area are horizontal. While we must expect further earthquakes, there is no immediate danger of a heavy one; anyhow, we can build against them."

Harry Johnson, consulting geologist, stated the last shock seems to have aroused the feelings of men high in authority, and that it looked as though we had entered a new era in that we are now giving the matter serious consideration, regardless of whether or not we may have another serious shock.

Myron Hunt introduced Dr. W. B. Munro, of California Institute of Technology, who summarized the discussions in the following manner: "A community never gains anything in the long run by a policy of concealing the truth. The fundamental blame lies with the psychology of our population. We have built against other hazards and it will be no difficult thing to build against earthquakes. An aroused opinion will gain this end. The catastrophe has probably done some good in that during the period of prosperity we "jerry built" all over the lot. Now that a problem

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Building costs have advanced 11% since January 1, 1933.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—

Common, $28 to $32 per 1000 laid, (according to class of work).
Face, $65 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.00 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—

Sand, 35 cents; clay or shale, 70c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony, average.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 65c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 30c per square foot.
Obscure glass, 26c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $22.00 per M (average).
Common O.P. select, average, $28.00 per M.

1x6 No. 3—Form Lumber	$17.00 per M
1x4 No. 1 flooring VG	44.00 per M
1x4 No. 2 flooring	38.00 per M
1x4 No. 3 flooring	30.00 per M
1x6 No. 2 flooring	44.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1x4 No. 2 flooring	$33.00 per M
1x4 No. 3 flooring	28.00 per M
No. 1 common run T. & G.	28.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdl.e
Redwood, No. 2	.70 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple .....$ 90.00 M ft.
1 1-16x2¼" T & G Maple ..... 117.00 M ft.
⅞x3½ sq. edge Maple ..... 110.00 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.90
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.10 per 100 ft.
Sash cord com. No. 8	1.25 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	2.10 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $3.00 base.
Belgian nails, $2.75 base.

Millwork—

O. P. $70.00 per 1000. R. W., $78.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $4.25 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.50 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.25 each.
Screen doors, $3.75 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $9.00 per M.
For smaller work, average, $18 to $27.00 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work 28c per yard
Three-coat work 38c per yard
Cold Water Painting 10c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).
Per Lb.
1 ton lots, 100 lbs. net weight 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).
1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Red Lead In Oil (in steel kegs)
1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—
8-inch ..... $ .85 lineal foot
8-inch ..... 1.25 lineal foot
10-inch ..... 1.40 lineal foot
12-inch ..... 1.60 lineal foot

Plastering—Interior—
Yard
1 coat, brown mortar only, wood lath...$0.36
2 coats, lime mortar hard finish, wood lath ..... .45
2 coats, hard wall plaster, wood lath..... .50
3 coats, metal lath and plaster ..... .90
Keene cement on metal lath 1.10
Ceilings with ¾ hot roll channels metal lath ..... .65
Ceilings with ¾ hot roll channels metal lath plastered 1.80
Shingle partition ¾ channel lath 1 side .60
Single partition ¾ channel lath 2 sides 2 inches thick 2.00
4-inch double partition ¾ channel lath 2 sides 1.20
4-inch double partition ¾ channel lath 2 sides plastered 2.25

Plastering—Exterior—
Yard
2 coats cement finish, brick or concrete wall .....$ .90
2 coats Atlas cement, brick or concrete wall 1.15
3 coats cement finish No. 18 gauge wire mesh 1.60
3 coats Medusa finish No. 18 gauge wire mesh 2.90
Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped)..... .17
2.5-lb. metal lath (galvanized)..... .20
3.4-lb. metal lath (dipped)..... .22
3.4-lb. metal lath (galvanized)..... .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $50.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $16.00 to $25.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural
$82 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $75 to $80 per ton cost of steel; average building, $80.00.

Steel Reinforcing—
$70.00 per ton, set, (average).

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodrarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Special Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 6 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

confronts us we are beginning to make progress in the right direction."

A letter from Robert A. Millikan, president of California Institute of Technology, was read, in which he stated he had accepted the chairmanship of a group of organizations co-relating all activities on reaching conclusions as to procedure in securing adequate legislation, safeguarding against building failures in future emergencies that may arise.

In closing the program, Mr. Austin expressed the gratitude owing to J. J. Backus, Los Angeles city superintendent of building, for the manner in which he has held out for good construction.

The following resolutions were adopted:

WHEREAS: The known damage to buildings in the recent earthquake was caused by moderate lateral forces emanating from one prime source, and

WHEREAS: It is recognized that future earthquakes may be of greater intensity or produce forces from other directions, and

WHEREAS: Buildings apparently immune from damage in the recent disturbance may be vulnerable to future earthquake movements, and

WHEREAS: The local building ordinances have not heretofore required that buildings should be designed to resist lateral earthquake forces. Now therefore, be it

RESOLVED: 1. That all buildings, whether damaged or undamaged in the recent earthquake, should be examined by experts for their proximity to fault lines and other areas of high earthquake hazard and for their resistance to lateral forces.

2. That no reconstruction should be undertaken until such examination has been made.

3. That after such examination and report thereon, all buildings deficient in lateral resistance should be so strengthened as to minimize as far as possible the risk of damage to life or property in future earthquakes.

4. That all buildings hereafter erected should be designed and built to resist lateral forces.

5. That copies of this resolution should be transmitted to the Board of Building & Safety Commissioners, the local School Boards, the County Supervisors, and other authorities affected.

SPOKANE SOCIETY OF ARCHITECTS

New officers of Spokane Society of Architects are: Julius A. Zittel, president; Archibald G. Riggs, first vice-president; H. C. Whitehouse, second vice-president; and Ogden F. Beeman, secretary-treasurer.

JAMES HANSEN SCHACK

James H. Schack, architect of Seattle, passed away suddenly March 16.

Mr. Schack, a native of Denmark, was sixty years of age. He arrived in this country in early manhood and began the study of architecture in the evening schools in Chicago. After the usual training and a number of early engagements, he came to Seattle in the days of the gold rush, and immediately established a substantial practice. His genial disposition, cheerful outlook and candor at once won him a host of friends and established him in the community.

As an architect, Mr. Schack was distinguished by the diversity of his works, the soundness of planning and his fidelity to the traditions. His domestic architecture, particularly in the Colonial style, has a delicacy which is not often equalled. While not unmindful of contemporary trends, he never permitted them to compromise his principles of dignity, fitness and grace. His numerous works will bear witness to a truthfulness of expression which was characteristic of the man.

Mr. Schack's passing leaves a gap in the ranks of Washington architects and business men which will not be filled.

ERNEST ROBINSON WILLIAMS

Ernest Williams, member of Washington State Chapter, A.I.A., died on March 5th, at his home in Seattle.

Mr. Williams came to Seattle in 1909 after receiving an architectural education at Cornell University, supplemented by practical experience in one of the leading architect's offices in Buffalo. His professional work was most effective, as, in addition to his ability as an architect he had to an unusual degree the happy quality of sympathetic cooperation with his fellow workers. This was particularly notable in the last work in which he was engaged with the city engineering department where he worked sympathetically with the engineers to get architectural expression in municipal structures.

ELECTED PRESIDENT

John S. Hudson, architect, of Seattle, has been elected president of the Lincoln Club, a public speaking organization, which meets Fridays at the Y.W.C.A., Seattle. Mr. Hudson is the perennial leader of the Washington State Society of Architects.

FOLDER DESCRIBES NEW PRODUCT

The Republic Steel Corporation has issued a folder illustrating and describing a new product, "Toncan", a copper molybdenum iron. This booklet and further information may be had by addressing the above company at Youngstown, Ohio.

EUROPEAN ARCHITECTS IMPRESSIONS OF AMERICAN HARDSHIPS

A letter to Pencil Points from a draftsman who shall be nameless.

WHEN I first arrived in America and stood with fully opened eyes before the huge skyscrapers, under the influence of their giant masses (knowing their strictly commercial nature), I took a very tolerant attitude relative to their exterior appearances. I studied rather their seemingly practical interior arrangements and their engineering solutions. I considered these buildings to be entirely modern and styleless, based on new ideas and modern structural framings. I did not care much that the exterior surfaces (mostly only on the lower portion and on the top) were covered by mediaeval or classical motives for I considered as a practical idea the use of the rich stock of the historic styles instead of the hazardous invention of new forms.

It was only later, when I heard these structures called "masterpieces of architecture" and when I heard it remarked that the Woolworth Building is "Gothic" and another is "Renaissance," that I started to realize the situation. I used for the first time a freshly learned expression and I said: "Is zat so? These buildings claim not to be only decorated boxes, but, they are striving higher?" and I began to forget my original tolerance and started to look at them otherwise.

I had the same experience with the smaller buildings. I can remember how often I stood with admiring gaze before some beautiful Colonial buildings enjoying their harmonious effect. It was the same with the English cottages and Dutch houses. But I found out very soon that these masterpieces are not so numerous and that they are just the copies of a few originals standing in New England and around Philadelphia.

I saw that all the suburban banks are Greek Temples, that all post offices have the same classical features, and I saw that all the new movies and lower store buildings have the same gingerbread architecture, called "Spanish" and originated from the worst examples of the Californian "Mission" or of the Mexican Jesuit architecture.

Later on — working in the type of American architectural office where the "architect" is hardly more than a promoter, who does not and cannot influence the creation of what is to be his signed "design" — when I saw that everything is "designed" out of magazines and books; when I heard that the customers were requesting "Collegiate Gothic" design for their 20-story apartment house boxes; when I realized that the appearance of the finished building is not as important as the perspective rendering which will be published by the Sunday newspapers; when I saw that the layout is done by the "layout specialist," that the plans are worked out by the "plan specialist," and that the "designer" is merely a decorator of the surfaces between the window openings; then I started to understand "American Architecture."

There was a case in one office—the matter of satisfying a customer who wished a 10-room cottage in the neighborhood of Chicago and who brought with him a photograph of a very poor Californian cottage of 4 rooms and who insisted on getting exactly the same thing.

I had one prominent architect as a boss who wanted me to make a perspective rendering of a corner building which had to be faked so that both elevations should look as if they were looked on from a point just opposite with the elevations. (He wanted a central projection with two eye-points!)

Another boss wanted a skyscraper with "Italian Renaissance" outfit on the upper floors but with a "Tudor Gothic" entrance which should be 3 stories high. (This boss was an exceptionally clever architect, for he always had some ideas and asked often the question: "Do you get the idea?" Finally, I had to answer: "Yes sir, I got the idea, but I think it is a sick idea.")

It often happened with architects that they did not tell their opinions upon submitted tentative elevation sketches until the next day. They had to consult their wives first. Sometimes they criticised the submitted sketches but they seldom went beyond such rather superficial remarks as: "I think it is too heavy," etc.

Once there was a city official as a customer who insisted that a new library building to be built must have the appearance of an English country home. There was another whose only wish was: "More terra cotta!"

After many years of experience, I can now understand why there are so many copies and adaptations of building designs in this country. I understand now why I can find, on the American streets, Venetian houses with the true copies of the rings wherewith to fasten the gondolas. I am not puzzled any more at seeing St. Peter's Cathedral rebuilt in a minor scale in Montreal. I am now rather pleased to recognize some old friends of the old country and I am inclined to forget their poor appearance in the new surroundings. Yes, I think that I know why the freshly built American Colleges must ape the complicated and sometimes inharmonious conglomeration of buildings exhibited by some old English universities which have been built successively during half a dozen centuries.

A magazine editor wrote me once: "We feel that the American architectural literature is lacking in criticism, but there are so few people com-

petent to criticise." I answered: "Who is competent to build?"

"STOLEN OIL"

"The Texas Star", house organ of the Texas Company, combines its March-April issues in one substantial number which its editor has designated "the President's Issue". All of the editorials and most of the articles were personally written by R. C. Holmes, head of the Texas Company, who has taken this means of bringing important facts regarding the current condition in the oil industry to the attention of the people.

More than three hundred thousand copies of this issue, said to be the largest ever printed, is the press run.

Articles of interest include "Stolen Oil", "Stolen Revenue", "Alcohol as a Farm Relief Tonic", and "Waste in the Industry".

The Texas Company is emphatically opposed to overproduction. It sees the folly of pouring unneeded oil into glutted markets and deplores the inexcusable waste of a valuable natural resource that can never be replaced once it is exhausted.

Under the caption "Stolen Oil—65,000,000 Barrels", the Star prints the following astonishing facts:

"Seventy-five million barrels of crude oil were produced in excess of Conservation Commissions' allowables for the 15 months ended March 31, 1933.

"Texas produced nearly 32,000,000 barrels of this in utter disregard of conservation laws and the Railroad Commission's orders. Injunctions granted by courts because conservation authorities issued orders in illegal form permitted 21,500,000 barrels to come out at the expense of the law-abiding.

"In Oklahoma 11,230,000 barrels were illegally produced.

"California produced 10,000,000 barrels which, however, is not classed as illegal oil. Rather, it is unfair oil, produced by a few operators in excess and out of proper regard for the allowables set by the voluntary curtailment committees fixing allowables for the majority of the industry in California, in an effort to prorate their production to somewhere near the market requirement.

"Activities of this kind are without possible defense. They can be prevented. We predict that they will be prevented, and that a stabilized and more creditable condition will exist."

MOST BEAUTIFUL BRIDGE

A fifth annual award for the most beautiful bridge built during the year, is announced by the American Institute of Steel Construction. A committee of nationally prominent architects and engineers will make the selections from bridges opened to traffic during 1932. This committee will designate the most beautiful bridge in each of three classes: Class A bridges comprise all those the total cost of which exceeded $1,000,000; Class B those costing between $250,000 and $1,000,000; and Class C those costing under $250,000.

The Jury of Award will make their selections from photographs and descriptive data submitted by builders and owners of bridges erected during the past year. These photographs and descriptive data must be in the offices of the American Institute of Steel Construction, 200 Madison Avenue, New York City, not later than May 13.

The Jury of Award, consisting of Mr. Robert M. Carrere, Architect; Mr. J. K. Smith of McKim, Mead & White, Architects; Professor D. S. Trowbridge of the College of Engineering, New York University; Mr. C. W. Hudson, Consulting Engineer, and Mr. F. E. Schmitt, Editor of Engineering News-Record, all of New York, will meet on May 17 to make the awards.

The plaques awarded to the prize-winning bridges will be formally presented by officers of the Institute during the summer, and public unveiling ceremonies will be held at the bridge sites.

DALMO-SIMPLEX WINDOWS MERGE

Dalmo Manufacturing Co. and its subsidiary, Dalmo Sales Corporation, both of San Francisco, have taken over the manufacture and sale of Simplex windows, which hereafter will be known as Dalmo-Simplex windows, and added several improvements to the product.

Simultaneously announcement is made that the Dalmo organizations have also taken over the manufacture and sale of Kramer flush valves.

Alvin M. Karstensen, formerly with Truscon Steel Company, will have charge of the sales and will be assisted by Fred Miller, previously affiliated with Kramer Valve Co., and A. H. Soule, heretofore of the Soule-Simplex Window Company. Other products which the company and its subsidiary make and sell to the building trades include Dalmo room temperature controls, Dalmo gas valves and Arthur rolling type screens.

Officers of the company are T. I. Moseley, president, and Sedley S. Stafford, vice president and treasurer.

Already one of the largest manufacturers of steel specialties in the West, acquisition of these lines and the extensive merchandising campaign contemplated, will make "Dalmo" an important factor in the national building materials field. Distribution covers the entire United States, and selling will be conducted through regular trade channels.

INVENTS NEW STAIRCASE

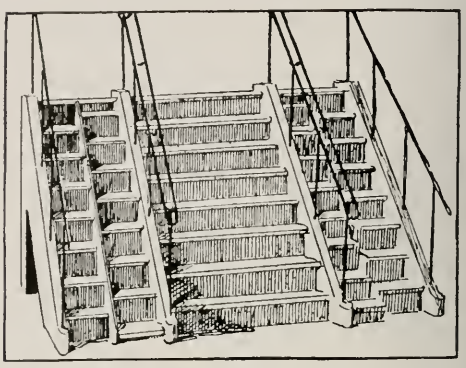
Monsieur C. Contal, a French scientist, has come to humanity's rescue, by inventing a staircase on engineering lines that is said to be the first real improvement in stairs for 5000 years. In his house at Saint Cloud, says a writer in the April 9th issue of *American Weekly*, Monsieur Contal has constructed a stairway which he calls the "Archimedes staircase" — not because that great Greek mathematician and inventor had anything to do with it or even thought about staircases so far as anyone knows, but merely because Archimedes was an original and inventive genius and because M. Contal deems his own invention of an easier stairway to be one of which Archimedes himself might not have been ashamed.

The Archimedes invention consists of two narrow stairways placed side by side, as illustrated. The individual up and down steps of these two stairways all have the same height, but the treads or flat surfaces of the two sets of steps are staggered. Each tread on one of the parallel stairways is just half way between two of the treads on the other stairway. The right foot of a person going up or down uses the right-hand set of these steps; the left foot uses the left-hand set. The person never has his two feet at the same level until he reaches the bottom or the top.

The practical advantage, M. Contal claims, is that the weight of the body is lifted as one goes up, or lowered as one comes down, more nearly uniformly than on the ordinary stair. The lift per step of the foot averages only one-half a step at a time, instead of a full step at a time. The motion is less jerky than on an ordinary stair, less energy is needed and continual use of the stairway is less tiring. At the same time, there is no undue use of space in the house or extreme lengthening out of the stairway, as is necessary for the so-called "easy" stairways that have very low steps or for the stepless ramps used in hospitals and factories.

Another advantage is that many falls which now occur on stairways will be avoided. Not long ago in New York City a serious accident happened because a woman lost her footing on a crowded stairway in one of the stations of the city transportation system and fell backward into a crowd on the stairway. Not only are such slips and falls much less likely on the easier steps of the new stairway, but it is another characteristic of the new design that persons cannot crowd past each other on the way up or down. The traffic must be "laned," as now is done with automobile traffic on many streets. If the stairway is crowded, one or more lines of people will be following each other in Indian file up one set of the Archimedes steps, while the down traffic will proceed in similar Indian file down another set. Thus falls and other mix-ups are much less likely.

The inventor has estimated that the average stair in France is about $6\frac{1}{2}$ inches high and the width of the tread $12\frac{1}{2}$ inches. Only when the architect has plenty of space at his disposal can the height be reduced to $4\frac{1}{2}$ or 5 inches. This height makes it very easy to walk up stairs.



STAIRCASE BUILT ON ENGINEERING LINES
First real improvement in stair design in 500 years

In the Archimedean staircase, each step will be about $3\frac{1}{2}$ inches high. Thus each leg instead of having to support the entire weight of the body during an ascent of $6\frac{1}{2}$ inches will only have to do so during $3\frac{1}{4}$ inches. The fatigue experienced will be more than cut in half, for experiment has shown that the effort required in raising the body up a step is much greater during the second $3\frac{1}{4}$ inches than during the first $3\frac{1}{4}$ inches.

Several varying applications of this invention may be made. In large stores, railway stations, museums and so on, where there is plenty of room, a stairway may be divided into three parts. The center will have high steps for the use of agile persons who wish to ascend rapidly, while on each side, separated by a rail, will be an Archimedean stairway for the use of those who wish to take things easily.

There may be a slight difference between the two for that on the left, as shown in the diagram, will be divided down the middle by a low partition. This arrangement is for the benefit of those who feel specially timid, for it has been suggested that people might stumble and fall down on account of the unfamiliar division of the steps. Experience has shown that this is not so, but to avoid all difficulty a partition is placed between the two series of steps, and a person will be obliged to keep one foot on one side of the partition and the other on the other side, where stairway traffic is heavy.

SCHOOL DESIGNS TO BE CHECKED BY STATE ARCHITECT

California Legislature Passes Earthquake Precautionary Measure

PLANS and specifications for all school buildings hereafter erected in California must be approved by the State Architect and construction of the same shall be subject to inspection by him under the provisions of a new bill, passed by the Legislature and signed by the Governor on April 10. The law also applies to alteration or reconstruction to existing buildings if the estimated cost exceeds $1000. The measure is already effective, text of the bill being as follows:

An act relating to the safety of design and construction of public school buildings, providing for regulation and supervision of the construction, reconstruction or alteration of or addition to public school buildings, defining the powers and duties of the State Division of Architecture in respect thereto, providing for the collection and disposition of fees prescribing penalties for violation thereof and declaring the urgency of the act, to take effect immediately.

The people of the State of California do enact as follows:

SECTION 1. The Division of Architecture of the State Department of Public Works is hereby vested with authority under the police power of the State and directed to supervise the construction of any new school building or, if the estimated cost exceeds one thousand dollars, the reconstruction or alteration of or addition to any school building, for the protection of life and property as hereinafter provided.

The term "school building" as herein used means and includes any building used or designed to be used for elementary or secondary school or junior college purposes and constructed, reconstructed, altered or added to, by the State or by any county, city, city and county or other political subdivision or by any school or junior district of any kind or character whatsoever within the State.

SECTION 2. For such purposes it is the duty of the Division of Architecture to pass upon and approve or reject all plans for such school buildings or for the construction, reconstruction, or alteration thereof or addition thereto. To enable it to do so, all district boards of trustees, city boards of education and other appropriate school authorities before adopting any such plans for a school building must submit the same to the Division of Architecture for approval, and are hereby authorized and directed to pay the fees hereinafter in this section prescribed. Before letting any contract or contracts for any such construction, reconstruction or alteration of or addition to any school building, the written approval of such plans, as to safety of design and construction, by the Division of Architecture, must be first had and obtained.

In each case the application for approval of such plans must be accompanied by the plans and full, complete and accurate specifications, and structural design computations, and estimates of cost, which must comply in every respect with any and all requirements therefor prescribed by the Division of Architecture. The application shall also be accompanied by a filing fee based on the estimated cost and according to the following schedule: For the first two hundred fifty thousand dollars, a fee of one-half of one per cent of the estimated cost and for all costs in excess of two hundred fifty thousand dollars a fee of one-fourth of one per cent, the minimum fee in any case to be fifty dollars. If the actual cost exceeds the estimated cost by more than ten per cent a further fee shall be paid to the Division of Architecture. Such further fee shall be one-half of one per cent of the amount by which the actual cost exceeds the amount of the estimated cost.

All such fees shall be paid into the State treasury and credited to the Division of Architecture public building fund, which fund is hereby created, and are hereby made available without regard to fiscal years for the use of the Division of Architecture, subject to approval of the Department of Finance, in carrying out the provisions

of this act. All such plans, specifications and estimates must be prepared by a certified architect holding a valid license under the State act regulating the practice of architecture or by a structural holding a valid certificate to use the title structural engineer under the law regulating the practice of civil engineering and the supervision of the work of construction, reconstruction, alteration or addition shall be under the responsible charge of such an architect or structural engineer.

SECTION 3. No contract for the construction, reconstruction or alteration of or addition to any school building, made or executed by the district board of trustees, city board of education or other public board, body or officer otherwise vested with authority to make or execute such a contract, shall be valid, nor shall any public moneys be paid for any work done under such a contract or for any labor or materials furnished in constructing, reconstructing or altering any such building or making any such addition thereto, unless such plans, specifications and estimates comply in every particular with the applicable provisions of this act and the applicable requirements therefor prescribed by the Division of Architecture and the approval thereof in writing has first been had and obtained from said division.

SECTION 4. From time to time, as the work of construction, reconstruction, alteration or addition progresses and as frequently and at such intervals as the Division of Architecture shall require, the certified architect or structural engineer in charge of the work and the inspector on the work and the contractor shall each make to the Division of Architecture a report, duly verified by him, upon a form or forms prescribed by the division, showing, of his own personal knowledge, that the work during the period covered by the report has been performed and materials used and installed, in every particular, in accordance with and in conformity to the duly approved plans and specifications therefor, setting forth therein such detailed statements of fact as shall be required by the Division of Architecture.

SECTION 5. The Division of Architecture is hereby granted full power and authority from time to time to make all such rules and regulations as to it may seem necessary, proper or suitable effectually to carry out the provisions of this act.

SECTION 6. Any person who violates any of the foregoing provisions of this act or makes any false statement in any verified report or affidavit required hereby or hereunder, is guilty of a felony.

SECTION 7. The State Division of Architecture has full power and authority and it shall be its duty to make such inspection of such school buildings and of such work of construction, reconstruction, alteration or addition as in its judgment may be necessary or proper for the enforcement of the provisions of this act and the protection of the safety of the pupils, the teachers and the public, and the school district, county, city, city and county or other political subdivision within the jurisdiction of which any school building is constructed, reconstructed, altered or added to, must provide for and require competent, adequate and continuous inspection during construction by an inspector satisfactory to the architect and or structural engineer and the Division of Architecture and under the direction of and responsible to the architect and, or structural engineer, for any and all such buildings and for any and all such work of construction, reconstruction, alteration or additions.

SECTION 8. Upon request of the board of trustees of any school district or at least ten per cent of the parents having pupils enrolled in said school district as certified to by the county superintendent of schools, the Division of Architecture shall make an examination and report on the structural condition of any public school building, subject to the payment of the actual expenses incurred by said Division of Architecture, provided that payment of such expenses may be waived by the Division of Architecture on recommendation of the State Superintendent of Public Instruction when it appears to the latter that the financial condition of the school district in which such public school building is located is not such as to permit of the payment of such expenses.

SECTION 9. This act is hereby declared to be an urgency measure necessary for the immediate preservation of the public peace, health and safety within the meaning of section 1 of Article IV of the Constitution and shall therefore go into immediate effect.

The facts constituting the necessity are as follows: The series of earthquakes occurring in the southern portion of the State has caused great loss of life and damage to property. The public school buildings, constructed at public expense, were among the most seriously damaged buildings. Much of this loss and damage could have been avoided if the buildings and other structures had been properly constructed. The school buildings which will be erected, constructed and reconstructed to replace the buildings damaged or destroyed by the earthquake should be so constructed as to resist, in so far as is possible, future earthquakes. These buildings will be erected, constructed and reconstructed at once and accordingly it is necessary that this act go into effect immediately in order that the lives and property of the people shall be protected.

ARCHITECTS MOVE

ROBERT- B. STACY-JUDD, architect, has moved to 2100 North Beachwood Drive, Hollywood.

JOHN P. KREMPEL, architect, has moved to 1206 Rives-Strong Building, Los Angeles.

WILLIAM MELLEMA, architect, is now located at 1661½ Beverly Boulevard, Los Angeles.

EMMET G. MARTIN, architect, has moved to 1350 Beverly Boulevard, Los Angeles.

ELWIN P. NORBERG'S new address is 329 South Oakhurst Drive, Beverly Hills.

MUNICIPAL BUILDING

Bids are scheduled to be opened on May 9th for the construction of a one story, reinforced concrete city hall and police station at Cloverdale, Sonoma County. Plans were prepared by William Herbert, architect of Santa Rosa. Work will also include a small annex to be occupied by the Cloverdale newspaper.

SAN RAFAEL RESIDENCE

Plans have been drawn by N. W. Sexton, architect of San Francisco, for a two story Spanish style residence in San Rafael for O. R. Hartzell of the San Rafael Board of Education.

ONE FOR BRIDGE PLAYERS

"Hello! Is this the city bridge department?"

"Yes! What can we do for you?"

"How many points do you get for a little slam?"

—*Boston Transcript.*

ACCIDENT PREVENTION WEEK

Governor James Rolph, Jr., has issued a proclamation declaring the week of May 21 to May 27, inclusive, to be Accident Prevention Week. During that period the Industrial Accident Commission, in cooperation with the California Safety Society, the National Safety Council, the United States Bureau of Mines, and other interested organizations, will hold an All-California Accident Prevention Conference on Wednesday and Thursday at the St. Francis Hotel, San Francisco. At this meeting the speakers will be men and women particularly qualified to speak on their respective subjects.

A plan for Community Accident Prevention Councils which can be put into effect in the different communities will be presented and will coordinate the efforts of the various groups in the community to the end that the enormous loss of life, which is occurring daily in our homes, on the streets and in industry, may be reduced to the minimum.

Whenever the citizens of the state decide that these accidents must be stopped and as individuals will then take part in this program, the results so earnestly desired will be secured.

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¶ Copies of the book may be procured from the secretary-treasurer:

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WHAT OF OUR CULTURAL UNEMPLOYED?

President Roosevelt is rapidly putting through his plan to set 250,000 idle men to work carrying out his plan for reforestation and other public works.

But what about the unemployed cultured, creative worker—the artist, the architect, the engineer, the musician, the actor, the doctor, the lawyer, the teacher, and the millions of young men and women who have lately graduated from colleges and are pleading for a chance?

For the first time an inspiring plan to meet this problem is offered:

"First: Create a National Council of Cultural Reconstruction, by legislation of Congress and official appointment by the President, which will be financed by vast grants from the Reconstruction Finance Corporation or by direct taxation.

"Second: Create a local council of cultural reconstruction in every community in America. Through such a council, conduct: (1) a careful survey of the social, educational, and aesthetic needs of the community; (2) a survey of all the creative, unemployed persons, with information concerning their talents and interests, education and experience.

"Third: Estimate the cost of employing these persons, as public servants, in tasks of cultural reconstruction, at salaries which will guarantee a standard of living of 'health and decency'.

"Fourth: Secure these sums—probably totalling between $2,000,000,000 and $3,000,000,000 each year—from the Reconstruction Finance Corporation. (If a choice must be made between liquidating the banks and liquidating creative youth, it will be wiser to cast the banks into the discard rather than the youth.)

"Fifth: Under the local councils of cultural reconstruction put these white collar youths to work as public servants, on a short working week, thereby permitting them to employ some of their energy on purely creative personal production.

"To illustrate concretely: Put these creative persons at work on the scientific and aesthetic study of the community. Let them confront the question: How can this community be organized for the security, happiness, and cultural growth of the people in it? To secure answers to the question, let them make surveys of the economic, political, social and educational life of the community Specifically:

1. First and foremost, let a group of trained unemployed persons work directly at the task of eliminating unemployment itself. With this group in charge create a nation-wide, co-ordinated system of em-

ployment exchanges. Make careful surveys, build up needed information, establish local, regional, and state clearing houses.

2. Let the engineers and architects and artists form a council for community planning. This would study the layout, the operation of municipal engineering enterprises — water supply, fire protection, problems of transit, streets, parks and playgrounds, and also the aesthetic development of public buildings, parks, and the like.
3. Let the trained physicians, public health officers, dentists, physical educationists, nutrition and home economic specialists make similar studies and plans for the reconstruction of the health facilities of the community—hospitals, clinics, visiting nurses, public diet stations, birth control clinics and the like.
4. Let the trained unemployed lawyers, students of government and politics, make similar studies and designs for the reconstruction of the departments of local government (more widely selected councils to do the same for state and county government).
5. Let the more talented trained teachers be put to work now at a variety of research tasks in schools, institutes and colleges. Some will serve as internes working in the classroom with experienced artist-teachers, making studies of child development, learning teaching techniques. Others will work in central research departments at the reconstruction of the curriculum. Still others will work in mental hygiene and psychiatric clinics. Some will design new types of school buildings which will be more appropriate than are our present ones; others will work at research problems of school finance and business management.
6. Let the musicians, dancers, actors, and other persons of the theatre develop community music and community theatres, preparing pageants, festivals, concerts, and dramatic performances. An increasing number of actively participating citizens will be drawn into these.

"My suggestive plan of cultural reconstruction makes no pretense to completeness. The completed design will be the work of the National Council itself. But the foregoing suggestions illustrate the feasibility of the whole enterprise. These things can be done now. These millions of idle and able youths have to be cared for with food, clothing, and shelter. Let us care for their minds and personalities by putting them at creative tasks. Let us make them self-sustaining, happy, and confident men and women.

Editor's Note—The plan outlined herein is an excerpt from pages 251—253 of a new book, THE GREAT TECHNOLOGY: Social Chaos and the Public Mind by Harold Rugg.

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NEW SAFETY DEVICE FOR GAS PILOT CONTROL

A revolutionary new automatic safety device for gas pilot control has just been developed on the Pacific Coast by the Watrola Corporation, Ltd., which has accounted for a number of new improvements in the gas equipment field recently.

The new device, together with other safety equipment, will be marketed under the name "PowerStat" by a corporation already formed bearing the same name.

Heading the new corporation is Arthur F. Erickson, until recently Pacific Coast distributor for Minneapolis - Honeywell Regulator Co., and previous to that head of a company bearing his own name which manufactured and distributed control equipment on a national basis.

"Thorough tests over a period of time have been conducted," said Mr. Erickson, "to establish the almost unbelievable operating dependability of PowerStat pilot light control. Fundamentally different from all previously existing devices, it makes necessary an entirely new concept of control mechanism in order to properly appraise its merits.

"It is a mono-metal alloy device, or robot, which, as contrasted with a bi-metal thermostat, has the characteristics of a movement of 30-thousandths; with a complete cycle in seconds; with practically unvarying speed under widely varying temperatures; with a pulling power of 30 to 50 lbs. and upward; with a fatigue point beyond the temperature of ordinary fireboxes, and it is not a thermostat. It forms the activating contro member in conjunction with a new carbureting pilot light burner of unusual economy and having the inherent ability of purging itself of gas gum."

The company will also distribute Watrola gas and liquid strainers, and sealing gum. The strainers are of new design and it is said they are capable of stopping particles of foreign matter as fine as 4-thousandths. Tests have proved that such fine strainers cause little pressure drop in gas or light liquids. The sealing gum, it is claimed, has the peculiarity of non-dripping, non-drying, and permanently sealing joints in artificial, natural or propane lines.

Associated with Mr. Erickson in the development of the PowerStat line is Allen W. Widenham who originally was with the gas utility industry, later a sales executive, and more recently identified with a comprehensive gas appliance research and development program, of which the foregoing items are a part.

SCHOOL DISTRICT CONSOLIDATION

Consolidation of school districts in California, as proposed by the California State Chamber of Commerce in a measure now before the Legisla-

ture, has received the endorsement of Mrs. Susan M. Dorsey, noted educator, and former Superintendent of Los Angeles City Schools.

"For a number of years," Mrs. Dorsey said recently, "I have held the opinion that reduction of our 3600 school districts in California, through consolidation, would be a distinct improvement to our educational system. The difficulty has been to devise a satisfactory method of consolidation which would benefit all types of districts, large and small, urban and rural, bringing to them more efficient and more economical management.

"I have come to the conclusion that the measure proposed by the California State Chamber of Commerce, Assembly Bill 897, as amended, overcomes the objections which have hitherto existed. This bill, as amended, does not interfere with the rights of teachers' tenure. The local option feature of the bill, giving districts the right to develop a plan of consolidation suited to their needs, if the high school district unit plan is not locally feasible, is a good provision; as is also the clause giving a year in which the various districts may study the problem of consolidation.

"Consolidation of our school districts, I believe, will make for better education and better administration. It will assure more equitable distribution of school funds, an advantage to the poorer handicapped districts, and I believe also that standards of teaching will be appreciably improved."

ENGINEERS AID REHABILITATION

The value of a professional organization such as the Structural Engineers Association of Southern California was clearly demonstrated in its activities immediately following the recent earthquake in Southern California. The services of experienced and thoroughly reliable licensed structural engineers were made available to the communities of the stricken areas not only for meeting the immediate necessity of inspection but, equally important, for the collecting and evaluating of all data pertinent to safety features in reconstruction and future building.

On the day after the earthquake, March 11, the executive committee met and appointed the following committees:

Scientific and Technical Committee
General Survey of Affected Area Committee
Code Committee

In addition, chairmen were assigned to various districts to give technical advice to assist in inspection work and in drafting new portions of building codes. For example, in Long Beach, the largest affected district, C. D. Wailes, Chief Building Inspector and President of the Pacific Coast Building Officials Conference, availed him-

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self of the services of leading structural engineers in condemnation work, in formulating new masonry regulations and in organizing the reconstruction work in general.

Practically the entire membership of the structural engineers organization responded to the call of the chairman for help in executing the duties of these committees. In this way, a large force of competent workers was soon in the field and, with the office of Secretary J. E. Shield as a clearing house, a vast amount of valuable information was collected.

The Structural Engineers Association is continuing its assistance and giving technical advice to the many civic organizations and communities of Southern California.—J.E.S.

PLAN TO REVIVE BUILDING

A plea for revival of the building industry, through cooperation of the government, banks, the public, and builders, as an aid to the return of better business conditions, was voiced in Syracuse at a recent meeting, by Charles A. Carpenter, A.I.A.

Mr. Carpenter, a past president of the Rochester Society of Architects, former member of the city Zoning Advisory Board and member of the city Building Board, addressed the meeting of the Central New York Chapter of the American Institute of Architects.

He pointed out that although building is the second largest industry in the country, it is almost overlooked, while appeals are made in behalf of agriculture, banking, foods, and other industries. He answers the cry that "there is no need for building at the present time" by saying that need is usually created by desire, and that if a desire were created the ways and means to satisfy it would be found.

He offered the following suggestions to stimulate the building industry:

1. Induce banks to loan more on local buildings instead of on out-of-town investments.
2. Encourage new building and modernizing old buildings.
3. Develop unification of the different groups in the building industry.
4. Tax the local, state and Federal governments out of the building business by stopping their production of plans, in order to reduce taxes, and give the work to tax payers.
5. Tax all property except that owned by city, county, state and Federal governments.
6. Don't give away taxpayers' money without obtaining work in return.
7. Encourage a beginning of Civic Center construction.
8. Encourage street extension and other major street plan development.

WORLD'S MOST BEAUTIFUL CITY

Formation of a central committee by eleven national civic and professional organizations to shape the development of Washington as the most beautiful of the world's capitals is announced by the Committee on the National Capital of the American Institute of Architects, of which Horace W. Peaslee is chairman.

"Among the general problems with which the committee has to deal," said the announcement, "one of the most important relates to the reorganization of the Federal departments; another concerns the production of Federal buildings by bureaucratic agencies instead of by outstanding designers of the country—a problem deeply affecting architects, landscape architects, sculptors, and painters."

The machinery of the committee, whose object is to exert the full force of organized opinion in matters affecting the upbuilding of the National Capital, will, it is expected, be in operation when the new Administration comes into power on March 4.

The allied organizations have agreed upon a definite program for the completion of major projects. They urge upon Congress the adoption of legislative measures to authorize the employment of capable and experienced specialists, particularly in departmental reorganization.

They propose that in the public buildings of the Capital the collaboration of the ablest architects, sculptors and mural painters be definitely provided for under proper authorization and with adequate appropriation.

The employment of landscape architects of outstanding reputation is urged in connection with the proper setting of public buildings, the design of parks, and the development of street plantings. Another aim is the collaboration of leading engineering authorities in problems involving engineering, public utilities, and construction.

These measures, it is held, are necessary in order that, in design, execution and maintenance, such work in the National Capital may not only equal the highest type of similar work in other cities and in private practice but may set standards for the country at large. The committee also asks that the supervisory and co-ordinating authority of the National Capital Park and Planning Commission be clearly defined and established.

The basic principles governing the movement are stated as follows:

"The National Capital should express in its physical planning and development the highest ideals and accomplishments of American art; such ideals can be realized only with the collaboration of the ablest professional advisers in the various arts; the amenities and utilities should be

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given proper emphasis in full harmony with esthetics; the pride of the American people in their Federal City warrants ample appropriations for its adequate development and maintenance."

The committee, which consists of representatives of committees which have been set up in each of the eleven interested organizations, is composed as follows:

American Civic Association — Miss Harlean James, Washington, D. C., executive secretary of the Association.

American Federation of Arts — Frederic A. Whiting, Washington, D. C., president of the Federation.

American Institute of Architects — Horace W. Peaslee, Washington, D. C., second vice president of the Insttitute.

American Society of Landscape Architects — Earle S. Draper, member of the Board of Trustees of the Society.

Association of the Alumni of the American Academy in Rome—Edgar I. Williams, fellow of the Academy.

City Planning Conference—Harold Buttenheim, New York City, editor of The American City.

City Planning Institute — Irving Root, Silver Spring, Md., of the Maryland-National Capital Park and Planning Commission.

City Planning Division of the American Society of Civil Engineers—Colonel C. O. Sherrill, Cincinnati, O., formerly Director of Public Buildings and Grounds of the National Capital.

Garden Club of America — Mrs. William H. Wilmer, Baltimore, Md., vice president of the Club.

Mural Painters — Ezra Winter, New York City, member of the National Commission of Fine Arts.

National Sculpture Society — Henry Hering, New York City, second vice president of the Society.

TAXATION VS. ARCHITECTURE

The executive committee of the A.I.A. at its last meeting renewed the "Special Committee on Taxation as Related to the Practice of Architecture."

President Russell has appointed the following members to serve on this committee:

W. R. B. Willcox, *Chairman*, Eugene, Oregon.
William B. Faville, San Francisco, California.
Charles A. Favrot, New Orleans, Louisiana.
Ellis F. Lawrence, Portland, Oregon.
Dalton J. V. Snyder, Detroit, Michigan.
Rudolph Weaver, Gainsville, Florida.
Arnold Southwell, Miami Beach, Florida.
John S. Seiber, San Diego, California.
Joshua H. Vogel, Seattle, Washington.

REBUILD RUN-DOWN AREAS

At a recent meeting of the Section on Architecture of the Commonwealth Club of California, San Francisco, Paul H. Watson gave an interesting talk on "Housing America, the Next Great Economic Movement". He gave a general description of the run-down commercial and residential districts of large cities, especially San Francisco, and made various suggestions for their rehabilitation. He stressed the point that our next developments would be to rehabilitate these areas rather than to expand to new territory. He suggested that architects make studies and pictures of specific blocks or areas so as to attract attention of property owners, bankers, and public in general.

TRADE LITERATURE

The Josam Manufacturing Company announce the formation of the Josam-Pacific Company for the further manufacture and distribution of Josam products, namely, double drainage shower, floor and roof drains and adjustable concrete inserts, in the states of California, Washington, Oregon, Utah, Idaho, Nevada and Arizona.

Catalogs and other literature will be current. Plant and office in San Francisco is located at 765 Folsom Street, (Greenberg Bros.) and an office and warehouse at 1340 East 6th Street, Los Angeles.

The International Nickel Company and the C. O. Jelliff Manufacturing Corporation have collaborated in producing a new building material which has been given the name of Inconel screen cloth. Inconel is a metal alloy product of the International Nickel Company, and the screen cloth is manufactured by the Jelliff Corporation of Southport, Connecticut.

An interesting folder has been put out illustrating this new product by Taylor, Rodgers & Bliss, Inc. of New York, and bears A.I.A. File No. 35-P-1. Further information may be had by communicating with the above firm at 40 East 49th Street, New York City.

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ARCHITECTURAL INFIRMITIES

Architects are now lifting their eyes from the drawing board to see the new horizons. At last they are beginning to realize that their methods are obsolete — that they have been designing better mouse traps in an impenetrable forest. They have been allowed to go so far that among the few laymen who have learned that there is such a word as architect, few can pronounce or spell it and practically none can define it.

We are now just where the liniment, mouthwash, cigarette and tooth-paste boys were a few years ago. Let us join in the bizarre American game of alternately spoofing and insulting the public.

Let us ask the public whether they are living in a house which suffers from "sour style," warning them that their best friend won't tell them but that the architect with a few deft touches can do them a world of good. Or—Does your dream house suffer from insomnia?" Or — "Does your fireplace inhale, if so use ours — they're toasted." Try one of our Norman peasant designs — they are "nature in the raw."

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In the Art Institute of Chicago, as a part of its official Century of Progress exhibition of Fine Arts, will be collected among other treasures such a great variety of famous canvases that it will constitute a survey of painting in the Western World during the last 800 years. Galleries and private collectors in Europe and America have consented for this occasion to add scores of masterpieces to the Art Institute's already rich exhibits.

Among the many old masters represented will be such men as Botticelli, Titian, Raphael, Rembrandt, El Greco, Velasquez, Holbein, and Rubens. The important modern masters whose work will be on view include Manet, Degas, Renoir, Cezanne, Matisse, and Picasso. Examples of the best American painting of the past century will likewise be featured as well as a superb international showing of the creations of living artists.

Under the supervision of Robert B. Harshe, director of the Art Institute, the various sections of the exhibition are being specially arranged for the convenience of World's Fair visitors.

RECENT ARCHITECTURAL PATENTS

COMBINED EXPANSION & CONTRACTION JOINT
Albert C. Fischer of Chicago, Illinois. Assignor to The Philip Carey Mfg. Co. A corporaton of Ohio. Patented Mar. 28, 1933

This invention provides for an improved contraction joint which has many advantages, and which also provides for the water-proofing of the contraction joint automatically, as well as allowing a better pivot motion on the projection anchor in the adjoining slab. This is caused by the insertion of a bituminous slab of varying thickness, depending upon the requirements. The contraction joint flanges are embedded in the bituminous slab on either side of the projecting center. This not only tends to preserve the metal flanges but also has a tendency to

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protect the projection, because in expanding in warm weather some of this bituminous material will find its way along the surface of the uncovered metal.

The purpose of this invention is to totally submerge both the contraction and expansion parts of this joint beneath the surface, so that when the concrete is finished and poured it will not be visible on the surface but will accomplish the same function, in causing a crevice to form across the surface, due to contraction. It will further function by waterproofing this crevice from within, and upon expansion of the bituminous material, and also the pavement, it will cause the asphaltic substance to work its way up to the crevice, so that after a hot period the bituminous material may often work its way to the surface, while the base part will have a tendency to prevent moisture from coming up, filling the crevice from below, and in this manner the entire crevice will be kept waterproof, and at the same time perform both the functions of an expansion joint and a contraction joint.

WINDOW CONSTRUCTION

Clyde W. Kelly of Detroit, Michigan, Assignor to Detroit Steel Products Co. of Detroit, Mich. A corporation of Michigan. Patented Apr. 4, 1933

This invention relates generally to window construction and refers more particularly to windows of the type having laterally spaced openings therein, separated by a dividing frame bar on the window frame and having swinging sashes or ventilators for the openings arranged with the swinging edges thereof adjacent each other for engagement with the dividing bar.

The invention concerns itself still more particularly with a window of the foregoing character wherein latch mechanism is employed on the dividing bar of the window frame for latching one or both of the ventilators in closed position and wherein separate actuators are provided for operating each ventilator.

One of the principal objects of this invention is to provide im-

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proved means for screening a window of the general type specified above which, in addition to providing for obtaining a more durable construction, is capable of being expediently assembled with or removed from the window.

Another advantageous feature of this invention is to provide a window construction having separate or individual screens, for the openings therein mounted thereof in such a manner as to form a compact unitary construction therewith, and in addition so arranged as to permit unobstructed manipulation of the latch and operator mechanisms.

HEATER
William E. Reno of Glendale, California. Patented March 21, 1933

William E. Reno of Glendale, California, has recently been granted a patent on a new type of gas heater for indirectly heating the air for rooms of buildings.

The heater has curved air ducts or flues which are exteriorly heated, the said ducts or flues providing resistance to the free passage of air or gas there through so that the air or gas is much more efficiently heated than in structures where the air or gas passes through straight flues or ducts, the exterior surfaces of the flues providing also more efficient impinging there against of the heating gases of combustion.

INSULATING MATERIAL
Charles A. Upson of Lockport, New York, Assignor to The Upson Company of Lockport, N. Y. A corporation of N. Y. Patented Mar. 21, 1933

This invention relates to insulating material which may be used, for example, for insulating the walls of buildings against the passage of heat there-through, and to a method of making such insulating material.

The insulating material is fire resistant to an unusually high degree and will retain its fire resistant qualities permanently instead of becoming less fire resistant and more inflammable as time goes on, as is often the case with insulating material of previously known kinds.

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The insulating material comprises in general a layer of fibrous mixture constituting a filling between layers of sheet material which form what might be termed liners for the filling. The filling constitutes the main heat insulating element, while the liners serve to hold the filling in place, and preferably to keep moisture from the filling. The insulating material is ordinarily put up in the form of relatively long strips of the proper width to extend between adjacent studs of a wall, and the carpenter or other person applying the material cuts the long strips into appropriate lengths to reach from the floor to the ceiling, for example. The long strips are swatched or folded back and forth like accordion pleats, to make a compact package for shipment.

INTERLOCKING SHINGLE
Jesse E. Berkheimer of Tacoma, Wash. Patented Mar. 21, 1933

The invention pertains to interlocking shingles, particularly to such shingles as are made of so-called prepared or composition roofing, consisting of a heavy felt or fabric body saturated and coated with bituminous composition, and generally faced with fine granules of mineral matter.

The principal object of the invention is to provide composition shingles of such construction that they can be laid in interlocking relation, with the lower corners of each shingle held tightly down so that the butts cannot be blown, slipped or pulled out of position after the roof is put on; that when so laid the shingles will have sufficient lap at all points to produce a rain and weather tight roof covering; that the lower end of each shingle may freely expand or contract without wrinkling or buckling because of varying temperature or the shrinkage of the underlying roof sheathing.

YIELDABLE DOOR STOP AND CATCH
Curtis Greene of San Diego, Calif. Patented Apr. 11, 1933

This invention relates to stops and catches for doors, gates, and other closure members, and is very effective for automatically stop-

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ping garage or barn doors or fence gates which have to be held open for passage of vehicles or other purposes. The invention is designed to limit and stop the opening of doors and the like and to hold the same open in a thoroughly safe and reliable way, and with the greatest possible convenience, limiting the labor required when opening the door or gate, to merely swinging it outwardly with enough momentum to carry it over the stop, which automatically checks and holds the door near the edge of the roadway or other open position. From this position, it may be reached, when it is to be closed, with much greater convenience than if it were free to swing outwardly beyond the stop. From this position, the door or gate may be released to swing in either direction from the stop by merely pressing a foot downwardly on the stop while pushing the door or gate in the direction desired.

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THE ARCHITECT AND ENGINEER

This Issue . . . A CENTURY OF PROGRESS EXPOSITION

JUNE 1933

Photograph of escalators in the new building of The Philadelphia Saving Fund Society

WHY ESCALATORS?

RECENTLY Otis escalators have been installed in a number of important buildings. In Rockefeller Center. In the new Cities Service Building, Sixty Wall Tower. In the Metropolitan Life Insurance Company's building of New York City. In the Old Merchants National Bank and Trust Company of Battle Creek, Michigan. In the new building of The Philadelphia Saving Fund Society.

It has been found that the Otis escalator provides convenient, economical transportation where people must travel comparatively short vertical distances. Because of the escalator, a bank can have its offices on the second floor and rent the valuable space below. A basement or upstairs restaurant served by escalators is almost as convenient as one located on the street level. The installation of escalators represents a distinct innovation in office building construction.

Recently Otis Elevator Company has developed refinements in escalator construction which produce smoother and quieter operation. This important improvement opens up many new uses for the escalator in varied types of buildings. Consider the escalator, either in the erection of a new building or the modernization of an old one.

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WHAT is President Roosevelt going to do about the reorganization of the Office of the Supervising Architect of the Treasury? We thought some program had been outlined for the President by the Institute. However, the same old regime seems to be holding forth in Washington, although the design of Federal buildings is practically at a standstill. Arguments in favor of distributing the work of designing government buildings to architects in private practice are many. It would help the unemployment situation in each city in which a building was planned for one thing. And it would give added interest and variety to our public architecture—now recognized all too much for its sameness.

:: :: ::

FREQUENT references have been made to accident costs, control and remedy. From the Michigan Mutual Shopman of April, 1933, we read an interesting article to the effect that it is accident control and not rate control that regulates. To quote:

"It is accident control, not rate control that regulates the amount of our enormous annual Compensation Tax to the taxpayer. ($1,000,000,000 a year!)

"Accident control is a function of industrial management, therefore it has always been directly 'up to' the general managers to control accidents in their plants. Many have not shouldered the responsibility. They merely tolerate some safety work and machine guarding.

"The aggressive attitude when dealing with shop executives and insistence that accident waste be reduced is lacking in many plants—and the losses continue and the taxpayer pays. When the men in the shop know that the management means business, a good accident experience always follows, and not otherwise—never."

As accident control is a function of industrial management in industry, so it is in traffic and home accident prevention, and to effect accident prevention constructive thought and foresight must be combined with a hearty cooperation of the employee, the pedestrian, and home folks. An interesting article by H. W. Heinrich, of the Travelers Insurance Company, reads as follows:

"Foresight—that is anticipation, or planning in advance—needs no defense as a notably important factor of success. The architect visualizes the completed structure before a stone is turned. Sculptors and painters likewise require vision. Executives plan their work. Armies move according to preconceived plans. Success demands that temporary failures and emergencies be anticipated not only in order that unfortunate results may be minimized but also that failure may be counteracted by corrective action. Much has been said and written about the need for individuals to be safety-conscious or danger-conscious. This is nothing more or less than foresight. The worker, through knowledge of the job, knows its danger points and must anticipate contact with them, in order to avoid accidents.

"A splendid example exists in driving an automobile. In passing parked cars a driver who utilizes the safety factor of foresight, anticipates the possibility that children at play may dart out from between the parked vehicles, directly in his path. Acting on this knowledge he proceeds with caution, ready at an instant's notice to sheer off, sound the horn, and apply the brakes. An operator on a drill press, anticipating that the piece of work he is holding might be wrenched out of his control, takes the precaution of clamping it to the table of the machine. The same thought applies to the sort of foresight that results in shoring up the walls of excavations before a slide occurs, standing out from under suspended loads, and avoiding unsafe practices and conditions in general."

In 1914 there were 24.3 industrial fatalities per 100,000 population, in 1930 this had been reduced to 11.2, more than a 50 per cent decrease and with a saving of more than 6,800 lives, in industry alone.

There has been no such record in home or automobile deaths, instead there has been an increase. If the individual citizen would realize this enormous and entirely unnecessary loss of life, together with the tremendous cost in dollars and cents (amounting to more than the entire cost of the State government) he would soon become active in the movement for better accident control.

:: :: ::

A RECENT issue of "Industrial Britain", prints the following:

"Experiments in the research department of Messrs. Mather and Platt, Ltd., the Manchester engineering firm, have resulted in the remarkable discovery that water can, after all, extinguish an outbreak where oil is the cause of the fire.

"Experts in fire-fighting from all parts of Britain, including officials of Lloyd's and the heads of many important fire brigades, recently attended a demonstration at the works when a small room was saturated with oil and a light applied.

"When the fire was well alight, the new apparatus was applied. Jets of water were turned on to the fire, with the result that in a few moments the flames were entirely subdued. The same result is obtained by the use of automatic apparatus.

"In the fire-fighting world it has always been considered ridiculous, if not highly dangerous, to pour water on burning oil. The discovery of this new automatic apparatus destroys that theory.

"The new system has been patented under the name of "Mulsifyre", to signify that the effect is produced by the emulsification of the surface of the burning liquid, which is brought about by bombardment with fine jets of water. The incombustible emulsion which is immediately created puts the fire out instantaneously.

"In forming an emulsion, what actually happens is that the oil or spirit is broken up into a multitude of tiny globules, each too small to be seen with the naked eye, and each entirely surrounded by a thin but unbroken film of water. If an attempt is made to ignite such an emulsion, the flame only comes into contact with the water.

"Tests have been conducted before Board of Trade officials, and its application to the engine-rooms of oil-fired ships has received their approval."

:: :: ::

THE general public does not seem to realize that until something is done to stimulate the building industry the depression will go on. The financial institutions that loan money for building purposes argue that the country is already overbuilt, that our cities are filled with unsalable and unrentable buildings and that until they are occupied it would be folly to loan money for new structures. Quite true—there are a great many unoccupied houses and apartments and office buildings, but how many of them are in rentable condition? Employment may be encouraged by modernizing these structures. And when you start to modernize you use building material products and the wheels of industry start moving again. When the mechanic finds a job and the factory employee returns to work, both start to spend money, our department stores fill up with customers and conditions improve all around.

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THE ARCHITECT AND ENGINEER

JUNE
1933

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Drawing by A. B. Cutts, II.

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Next Month

Arthur Dudman, one of the younger architects in the San Francisco Bay Region, has designed several homes that are outstanding for their architecture and plan. They will be shown with an article by Mr. Dudman in the July issue.

The recent Southern California earthquake will be reviewed by Walter Steilberg, architect and engineer, who spent several weeks in Long Beach and other cities where the temblor did the greatest damage. Mr. Steilberg draws some startling conclusions and makes certain recommendations that he believes will safeguard our buildings from future seismic disturbances.

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FEDERAL BUILDING, THE TOWERS OF WHICH REPRESENT THE THREE BRANCHES OF GOVERNMENT, A CENTURY OF PROGRESS EXPOSITION, CHICAGO, ILLINOIS

EDWARD H. BENNETT AND ARTHUR BROWN, JR., ARCHITECTS

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MODERN ARCHITECTURE DOMINATES CENTURY OF PROGRESS EXPOSITION

by
GEORGE A. BARCLAY

THE architecture of A Century of Progress Exposition has definitely cast off the shackles of the past. It serves the novel purpose of providing Fair visitors with something radically different in the way of buildings from what they are accustomed to see every day in their home communities. It serves the practical purpose of providing buildings that in form and size are suited to their primary task—that of housing exhibits.

Economic conditions and the problems of the time have governed to a large extent this new architecture. The design has been largely contingent on the introduction of new materials and methods of construction and upon the need of economy. The architects have taken into account the fact that a World's Fair is properly a testing ground for new ideas. They have striven to bring the buildings and the exhibits which they are to house into a sensible relationship with each other.

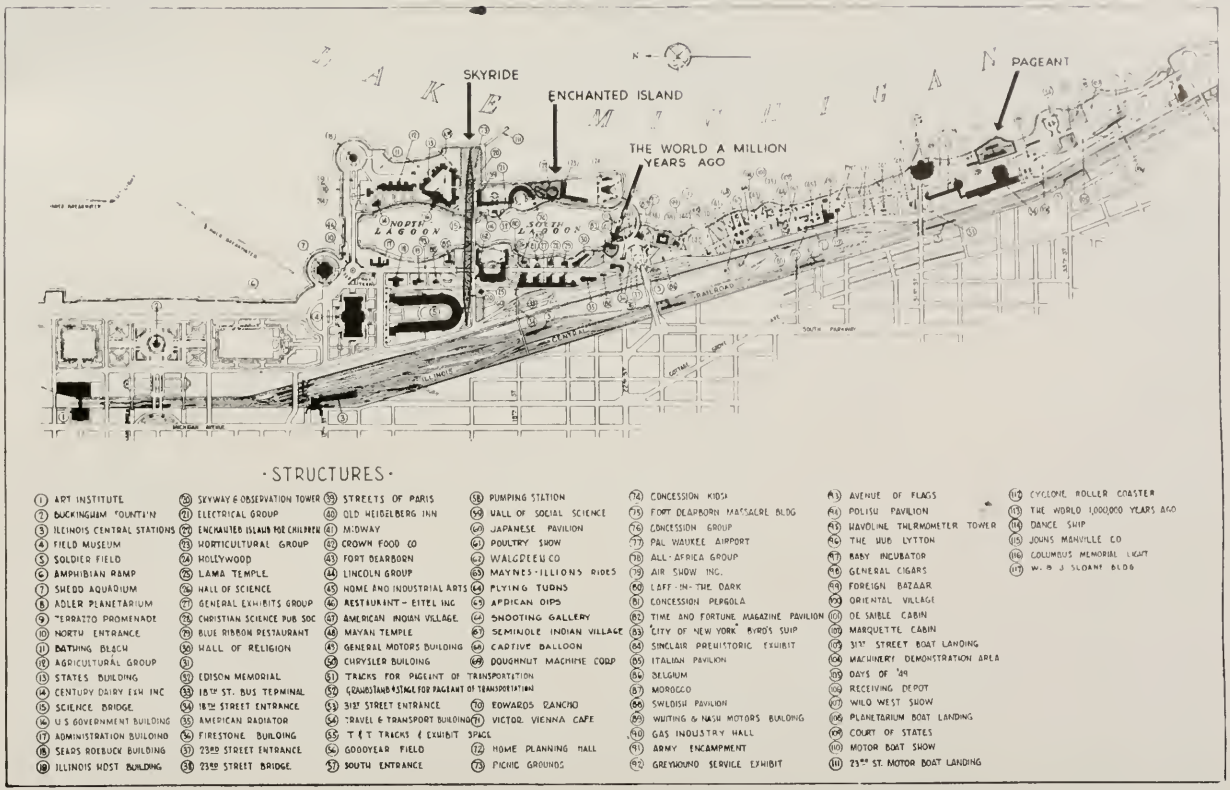
A very definite attempt has been made to design buildings to perform the function for which they are intended.

In expositions of the past, palaces of plaster have risen in stately procession, with rooms and ceiling heights which in themselves may have been impressive, but which had little regard for the kind or size of exhibits they were to house. In A Century of Progress the building program and the exhibits scheme have been considered as corollary to each other. The plan of exhibits has been developed in a logical, orderly manner that has given the architects an opportunity to provide buildings suited to these exhibits. This is one of the exposition's most important contributions to the science of display and one which may have important consequences for the future.

Architects have performed the dual role of designing buildings and planning and supervising the exhibits. The result has been structures that are closely knit, yet flexible, which take into account special exhibit features and provide great halls for them and which create long, low connecting units suitable to the most effective presentation of other exhibits.

Unusual effects have been achieved for a surprisingly low building cost. A greater reliance has been placed on lighting and color as part of the exterior architectural decoration than has hitherto been the case.

To those who recall the architecture of the World's Columbian Exposition of 1893, in Chicago, the buildings of A Century of Progress will be strikingly different.



GROUND PLAN AND LOCATION OF BUILDINGS,
A CENTURY OF PROGRESS, CHICAGO, ILLINOIS

CHICAGO EXPOSITION OF 1933

The World's Fair of '93 represented the flowering of classical architecture. It accomplished a most important thing. It helped to open the eyes of the American people to an appreciation of art in architecture. It was the beginning of a Renaissance of classical architecture in America. It definitely set the pace for the architecture of the decades that followed. Not only in public buildings, but in all the expositions which followed the first Chicago Fair, the emphasis was on the classic.

In the architecture of the 1933 World's Fair a different thing has been attempted. Its builders have opened the eyes of the world not to what has happened in the past, because that has been effectively done, but to what is being accomplished in the present and what the future may hold.

The theme of A Century of Progress is the advancement of mankind in the past hundred years. All practical considerations aside, it would be incongruous to house exhibits showing man's progress in the past century in a Greek temple of the age of Pericles or a Roman villa of the time of Hadrian.

In virtually all of its aspects this 1933 World's Fair architecture is modern. It depends for its character and effectiveness on planes and surfaces—the results of architectural requirements based on exhibit demands. There is no parade of plaster, ginger-bread effects or ornate decoration. Color and light against the background of planes and surfaces provide new and extremely interesting effects. Moreover, the spectacle of crowds of people moving at varying levels on ramps and terraces will add a fascinating pattern to the decorative scheme.

The members of the Architectural Commission of A Century of Progress are seasoned in the traditions of the past, yet they are fully conscious of the needs of the present and the requirements of the future. They include Harvey Wiley Corbett, Arthur Brown, Jr., of San Francisco, Paul Philippe Cret, Edward H. Bennett, John A. Holabird, Hubert Burnham, Daniel H. Burnham, Raymond Hood and Ralph T. Walker. All have felt the influence of the Ecole de Beaux Arts in Paris, home of the classical school, yet all have had a marked influence on the modern architecture of America.

These men have made a sincere effort toward simplicity in the design of the buildings on which they have worked. They have sought effects of naturalness, tried to express through their design the function of the building.

They have had to consider the movement of great masses of people into, through and out of the grounds with comfort and safety. They were given the task of producing a compact machine that began to function when the Fair was formally opened May 27.

The economic conditions of the times were determining factors in the architectural design as has been pointed out. In the face of the depression it would have been impractical, if not impossible, to erect structures requiring the ornate detail of those former fairs. The need for economy placed the architects squarely in the position of producing unique and pleasing effects with the materials at hand.

The fact, too, that this is the first exposition in history to be built without subsidies from the Federal, state or local governments was likewise important. The exhibit buildings have had to pay for themselves through the sale of exhibit space to great industries and associations.

The builders have made use of factory-made parts to a large degree. Wall materials, for instance, have been fabricated in shops, cut into standard shapes and transported to the fair grounds and applied to the steel frames with clips or screws. The materials are of light weight. They are easy to handle. They require less steel. As a result of economies, some of the buildings of the 1933 World's Fair have been built at a cost less than that of structures in the 1893 World's Fair when the price of materials and wages of labor were lower than those existing today.

The temporary nature of the exposition has permitted lighter work stress in the steel structure. The architects have not had to allow for the unknown ravages of

MAIN FACADE OF ADMINISTRATION BUILDING

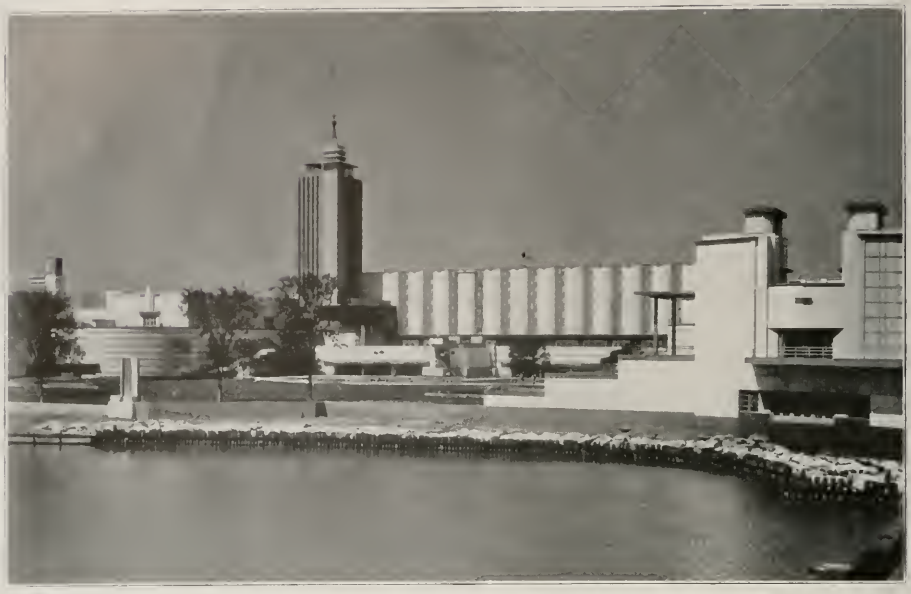
EDWARD H. BENNETT, HUBERT BURNHAM AND JOHN A. HOLABIRD, ARCHITECTS

ADMINISTRATION BUILDING
Edward H. Bennett, Hubert Burnham and John A. Holabird, Architects

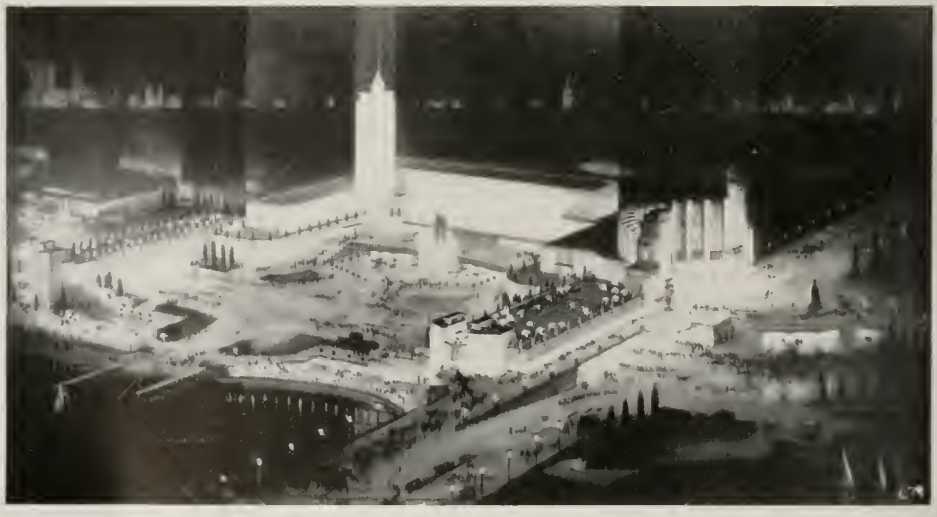
NIGHT ILLUMINATION OF MAIN FACADE, ADMINISTRATION BUILDING
Edward H. Bennett, Hubert Burnham and John A. Holabird, Architects

VERTICAL LINES CHARACTERIZE HALL OF SCIENCE TOWER
PAUL PHILIPPE CRET, ARCHITECT

TOWER OF THE HALL OF SCIENCE
PAUL PHILIPPE CRET, ARCHITECT



COURT OF THE HALL OF SCIENCE
Paul Phillippe Cret, Architect
The hall is U-shaped, with the two arms reaching down to the lagoon and inclosing a court of three acres.



ARCHITECT'S PERSPECTIVE, HALL OF SCIENCE
Paul Phillippe Cret, Architect
The structure presents the appearance of a metal and glass creation, rising from colored terraces and brilliantly illuminated.

time as is the case with buildings designed to last for a long period of years. In many cases the steel has been bolted together instead of riveted, permitting easier demolition and salvage afterward.

Some new materials have been used and new uses for traditional materials have been found. Gypsum board coated with a protective layer of aluminum paint has been used on the exterior of a number of buildings. Sheet metal, plywood and asbestos cement board have been used on others. The steel frame has been standardized on virtually all structures.

One of the building innovations that may puzzle many people is the absence of windows. This is not just a stunt or trick. Everybody familiar with exhibitions knows that sunlight for day-time illumination is an extremely variable factor. By eliminating windows, artificial light must be used. This permits a constant control over the light on exhibits, regardless of whether it is cloudy, a sunny day or night.

The windowless wall surfaces of the buildings might of themselves be uninteresting and dull were it not for the use of color. Color is being utilized as a decoration in this exposition as in no other exposition of the past. The new building materials used in these structures require color to give them texture and protection. If this exposition had followed the pattern of its predecessors, stucco and plaster ornamentation by the square yard would have been used to break up the wall surfaces. But today, color takes the place of this applied decoration and by doing so it enhances the beauty of the buildings and represents an important structural economy. Moreover, it provides a gayety, a sense of carnival that is essential to the attractiveness of an exposition to the visiting public. In all, twenty-two colors are used on the exteriors of the buildings of A Century of Progress Exposition.

The colors are as visible at night as by day. They serve the important function of blending the decorative effects and the buildings themselves into one interesting composition. This new use of coloring in the exposition suggests important applications to the future of display technique.

If color is an important adjunct to this new architecture, so too, is exterior illumination. In many instances the lighting has been made definitely a decorative feature of the architectural design. Virtually all of the architectural lighting is indirect. The main purpose is to create an architectural effect with light and color that will be dignified and restful.

Gaseous tube lighting is being made use of extensively.

Two great electrical manufacturers, the General Electric Company and the Westinghouse Electric and Manufacturing Company, combined their forces of illuminating engineers under the direction of W. D'Arcy Ryan, for many years director of General Electric's illuminating engineering laboratory, to plan and install the outdoor lighting system.

At least 2100 kilowatts of light equipment — incandescent lamps, arc searchlights, and gaseous tubes—have been in-

TOWER OF WATER, DOMINATING FEATURE OF 1933 CHICAGO FAIR
Ralph Thos. Walker, Architect

PORTAL OF THE ELECTRICAL BUILDING WHICH HOUSES ALL OF THE EXHIBITS OF THE ELECTRICAL INDUSTRIES
RAYMOND HOOD, ARCHITECT

ELECTRICAL BUILDING
Raymond Hood, Architect

stalled by the exposition, and exhibitors who have erected special buildings, as well as the scores of concessionaries, are adding to the outdoor lighting scheme. More than 15,000 incandescent lamps, ranging in size from 10 to 3,000 watts, 24—36-inch arc searchilghts, and miles of feet of neon and mercury vapor tubes are being employed. There are 1,000—1,000-watt floodlighting projectors, 2,200—200-watt projectors, 17 3-k.w. incandescent searchlights, and 500 special mushroom lighting fixtures, about 4 feet high, which have been developed for path and garden lighting.

Exterior illumination of the Electrical Building — one of the most spectacular effects—will be accomplished by a combination of incandescent searchlights, an electric fountain of unique design, and mercury vapor tubes presenting the appearance of a waterfall over the curved surfaces at the rear of the semi-circular court. Above the waterfall effect is an aurora created by the 17—3-kilowatt incandescent searchlights, each having a light output of approximately 21,000,000 candlepower, mounted on the roof. These searchlights are adjusted so that the beams intersect above the fountain to form a brilliant silver fan in the sky.

In the center of the court is the electric fountain, a tower of water and light. Above the large basin, four rings of water jets will be illuminated in different colors by a total of 140 floodlighting projectors. From the center will rise supports for an inverted cone of polished metal, 85 feet in the air, that will reflect the sparkling colors of the water.

Three electric fountains have been installed in the south lagoon, just off the east shore and north of the Twenty-third Street Bridge. With 507 water jets, sprays and nozzles in each, eight distinct water displays can be produced by each fountain. A 75-second period is required for

DETAIL OF TRAVEL AND TRANSPORT BUILDING
EDWARD H. BENNETT, HUBERT BURNHAM AND JOHN A. HOLABIRD, ARCHITECTS

Roof is formed of metal plates suspended by steel cables from twelve steel towers and anchored with huge slabs of concrete.

TRAVEL AND TRANSPORT BUILDING
Edward H. Bennett, Hubert Burnham and John A. Holabird, Architects

AGRICULTURAL BUILDING
Edward H. Bennett and Arthur Brown, Jr., Architects

REPLICA OF FORT DEARBORN, CENTURY OF PROGRESS EXPOSITION

Photograph shows, left to right: the powder magazine, soldiers barracks, blockhouse and barracks.

each water effect, and a complete cycle that includes the many combinations will take ten minutes. Eighty feet is the maximum height to which water will be spouted, and the total water consumption of the fountains will be 3,600 gallons per minute.

Whether the new architectural design, the use of new materials, the employment of color and of lighting effects such as A Century of Progress has introduced, will have a marked effect on the future, time alone will tell. This 1933 fair gives the architects of this era an opportunity to test out and develop modern ideas in much the same way as the World's Columbian Exposition of 1893 gave the architects of that day an opportunity to express themselves in the classical form.

It is highly possible that the exposition will have an important effect on the economics of commercial building in the future. Buildings today are erected to last for thirty or forty years. Their interior mechanical equipment usually becomes out of date in about a third of that time. The rapid obsolescence of location is another important factor, since it frequently reduces the real value of a structure which has represented a heavy initial investment. The experience of the 1933 World's Fair offers a definite hope that a building practice will result that will produce commercial structures designed to last no longer than their mechanical equipment and permitting economical wrecking. By this means lowered cost and more frequent replacement, as is the case with other industries, might enable the building industry to adjust its production costs in line with the production ratio of other business units.

HARVEY WILEY CORBETT TELLS HOW EXPOSITION WAS CREATED

Harvey Wiley Corbett, internationally known architect, and a graduate of the University of California, Berkeley, gives a graphic account of the incidents leading up to and culminating with the opening of A Century of Progress. Mr. Corbett's description will appeal to the architect because it tells how the architecture of the Fair was ultimately agreed upon by a board of outstanding men in the profession.

FORTY years ago Chicago opened the Columbian Exposition a year late. It opened in the panic of '93 and twenty-four hours before the event it was uncertain whether the trustees or the sheriff would do the opening.

The Columbian Exposition served a very definite purpose in America. We had passed through the dark ages of American art following the Civil War, with all its depressing results in miles of brown-stone houses, what-not shelves, mechanical rockers, "throws" and antimacassars.

America in those days was not a traveling public as far as Europe was concerned. American people were practically ignorant of the existence of ancient Europe, of the great monuments of the past and of the dignity, scale, proportion, mass and silhouette of those fine buildings at which the world has marveled for centuries. They were sorely in need of a revival in architectural ideas, and the Columbian Exposition became an architectural Renaissance for America. It successfully turned the eyes of America upon the beauties of Europe and antiquity, and classic architecture became our standard of design.

Then the American began to travel; our people acquired first-hand knowledge of these ancient monuments, and we have today Government buildings, civic centers, financial and other large institutions showing directly the influence of the Columbian Exposition.

Every fair which followed '93 was patterned on the same idea. Buffalo, St. Louis, San Diego, and San Francisco—all in the antique manner. The Columbian Exposition was their model.

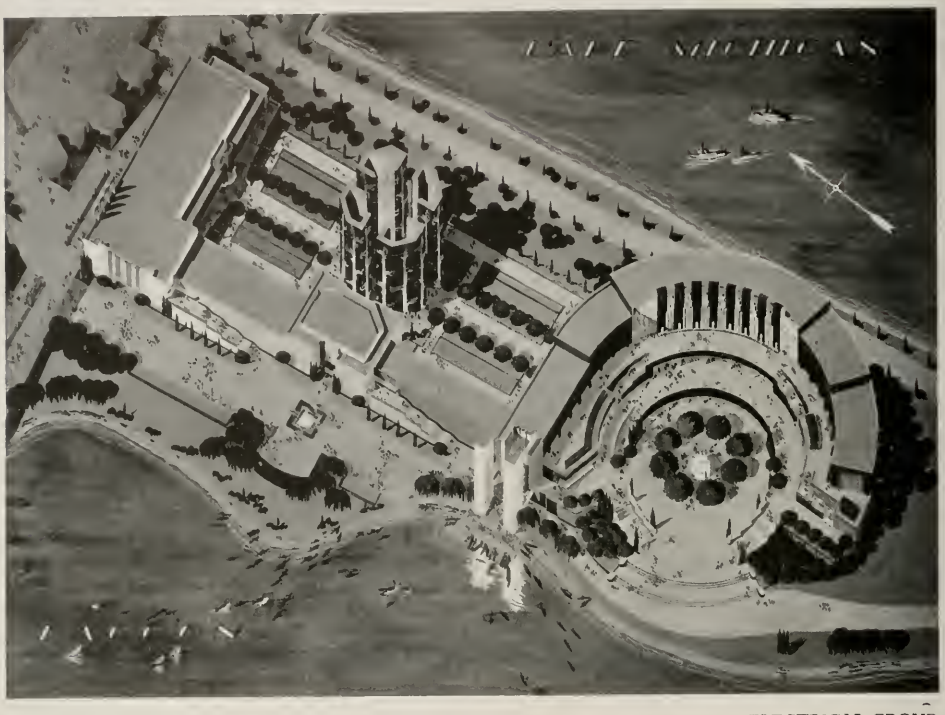
Some five years ago, at a time when most people did not know what to do with their excess money, A Century of Progress became a paper reality through the appointment of an architectural commission. The Board of Trustees, headed by Rufus Dawes, had taken some architectural advice and had been informed that the creation of a successful architectural plan would require the selection of an architectural board of one of the two then existing schools of architecture, which could be defined as "progressive" and "conservative." They were told that they could not hope to simply select eight or ten outstanding members of the profession and expect an harmonious result if they made their selection without regard to the mental attitude of the members.

Chicago, always having been a highly progressive city unhampered by the conservatism of the East, decided to make a selection on the progressive side and therefore called a board of eight men, consisting of three from New York (Raymond Hood, Ralph Walker, and myself), one from Philadelphia (Paul P. Cret), three from Chicago (John Holabird, Hubert Burnham, and Edward Bennett), and one from San Francisco (Arthur Brown, Jr.). While Bennett, Brown, Cret and I were older men, we still "had young ideas." The other four were men unquestionably linked to the progressive school. We met in Chicago and received from Dr. Allen D. Albert an historical outline of previous expositions which had been held in this country. Doctor Albert acted as honorary secretary of

the board and served as *liaison* officer between the Architectural Commission and the Trustees.

After making a rather extensive review of previous expositions, Doctor Albert said the Trustees wished to ask the board a certain question. I had been elected temporary chairman and questions were put to me. I had a feeling that I knew what the first question would be, the same question which a client invariably asks an architect when he thinks of building anything from a summer house to a state capitol, namely, what "style" of architecture he proposes to use.

The American public at that time had become so accustomed to thinking of architecture as a matter of "style" that it was difficult to approach the problem from any other angle. My reply to Doctor Albert indicated, as well as any explanation could, the modern approach to architecture, for I said that the "style" of the World's Fair would be the last thing determined and not the first. I admitted that it would have been far easier for the Architectural Commission to write on slips the thirteen-odd architectural styles from Early New Jersey to Late Pullman, put them in a hat, draw one and start merrily to create a world's fair in that particular style, using our well-developed ingenuity in fitting the needs of the problem into a long string of Greek temples, Italian palaces or Mexican pueblos, depending on the drawing in the "style" lottery. I explained that we did not feel that that was the correct approach to any architectural problem, much less to one



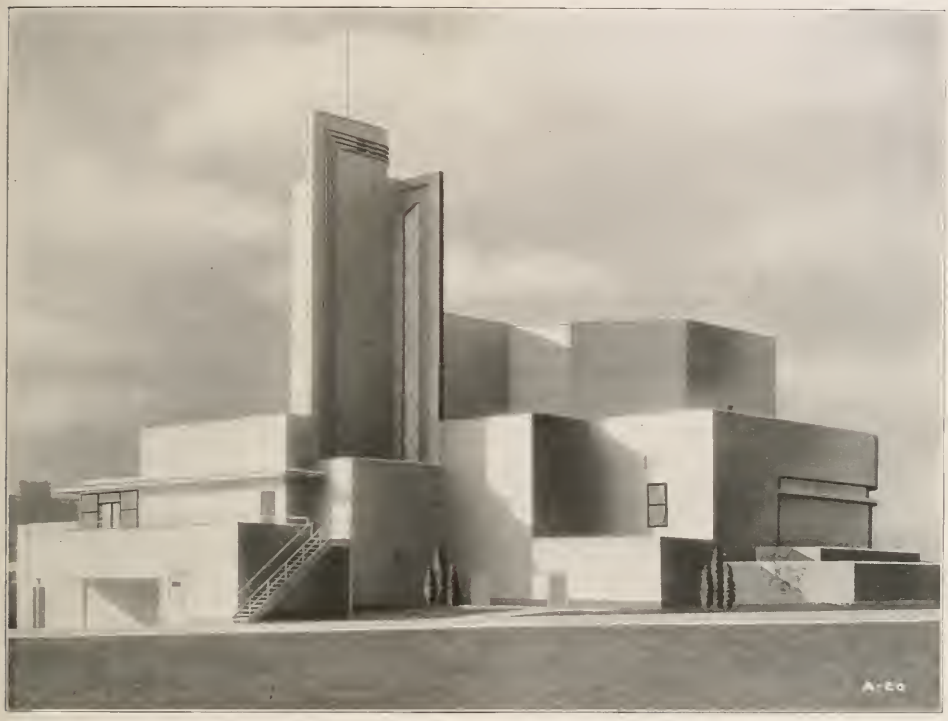
ELECTRICAL GROUP
Raymond Hood, Architect

which should be the last word America had to say in architecture. While it is true that the Columbian Exposition of 1893 had done that very thing with huge success, that was not sufficient justification for repeating the process.

It seemed to us far better to approach our problem by a careful study of the new conditions which we had to fulfill and plan the fair on the basis of those conditions—the nature of the exhibits, the contemplated attendance, the modern conditions of life, the new structural trends—availing ourselves of the extraordinary inventiveness of our engineers and designers, than it was to simply "rehash" the safe but old material.

This Exposition is to commemorate the one hundredth birthday of the City of Chicago. Just one hundred years ago the city received a charter. It then consisted of a few huts and log shelters on the mud flats of Lake Michigan. One hundred years has shown a vast change. I doubt that in any other time or place in the history of the world so great and definite a change has occurred in that length of time.

But it was definitely felt by the Exposition authorities that there was more to say to American people and the world at large than merely accentuating Chicago's birthday. One hundred years of progress in science, invention, engineering skill and art had taken place and represented a period in history in which advances in this field had possibly out-distanced advances in all the previous recorded history of man. It was felt that the people should be made conscious of this progress and have the



DAIRY BUILDING
Edward H. Bennett and Arthur Brown, Jr., Architects

matter presented to them in a form with sufficient definiteness and under circumstances where they could appreciate its importance and learn more of the age in which they live and the quality of leadership which had made that condition possible.

Instead of turning the eyes of America upon Europe, we felt that the eyes of Europe should be turned upon America, that our contribution, if we had any to make, should be one looking into the future and pointing out thereby the direction in which we as a nation are moving. This was not an easy thing to attempt. Because of modern science and invention we were forced to work without precedent. We realized that beauty is so largely a matter of association of ideas that setting up new standards of forms, detail and color would be a highly risky undertaking.

Art is an ever-changing thing, but the rate of change has increased in proportion to the speeding-up of all other forms of activity, and new ideas are more readily accepted today than they were forty years ago. The Columbian Exposition presented an idea which, while not new in itself, was decidedly new in America.

A Century of Progress presents ideas in architecture and plan arrangement which are not only new in America but new in the world as a whole.

GENERAL EXHIBITS GROUP
Harvey Wiley Corbett, Architect

What then were some of the newer problems which this fair had to meet? It contemplated attendance of a million people a day, and that meant a million people no longer accustomed to walking as our fathers and mothers had been. The extensive use of automobiles, moving stairs, elevators, transit lines, meant that we must provide easy methods of having our visitors see the Fair without too much fatigue; that the exhibit area must be concentrated in two or more stories with easy ramp connections over which wheel-chairs could be readily moved. To lift people off the ground level, give opportunity to see the Fair upon upper terraces; to avoid widely separated

buildings, but to tie the various elements into a simplified arrangement of circulation, was essential. Yet it was hardly possible to have upper stories from which the visitors could walk out onto a terrace and thereby have that feeling of freedom of exit so essential in the handling of crowds.

The enormous advance, especially in recent years, in the control and development of artificial light, became another important factor. Here again the buildings must be designed with the possibility of light as part of their architectural composition. The fair, contrary to previous practice, was to be quite as extensively used after sunset as during the day, so it was decided to have all exhibits artificially lighted as being the only dependable light. This automatically produced large wall surfaces and special ventilation in the enclosed spaces. The Architectural Commission was determined that this important matter of lighting should not come as an after-thought, that all facilities required should be an inherent part of the design.

What was the problem in the matter of construction? All previous fairs had been built in wood and staff, simulating masonry construction of heavier form, and non-fireproof. In view of the very valuable nature of the exhibits and in view of the use of stories above the ground level, it was necessary to construct practically fireproof buildings and make full use of many materials which recent science has developed for the enclosing of space with the minimum weight and maximum economy. Another important consideration was the extensive use of water. The fair, located on the shores of Lake Michigan, extending some three miles south of the Field Museum and Stadium, had the opportunity to use water features in an unusual degree. A partial island already extended some eight hundred feet off shore and this was extended southward to form an enclosed lagoon, which became the major open space feature of the fair. The buildings were arranged to flank both sides of this lagoon and form practically a continuous chain so that visitors may move with ease and comfort by the ground or second-story level.

The exhibits have been arranged in an orderly progression, with the general theme of the fair as the background of that arrangement, so that the visitor may truly grasp the significance of this past century of progress. The buildings indicate the trend in architectural design and the practical use of new methods of construction which antiquated building laws do not yet permit.

Are Architects Always Gullible?

One Hundred and One Participants in a Chicago Housing Competition

Architects, generally speaking, have always been more or less gullible. There are several good reasons for this unfortunate trait. Need of a job for one thing. Enthusiasm for their work, another. Opportunity to do something unusual, another. Hence we are not surprised when we read that one hundred and one architects in the middle West responded to a free-for-all competition conducted by a real estate enterprise in search of some cheap advertising. Here is the story of what happened, cleverly penned by E. S. Hall in the Monthly Bulletin of the Illinois Society of Architects:

IT is said that the difference between men and monkeys is that men learn through the experience of their fellows and through the teachings of history while monkeys learn only through their own individual experience. On that hypothesis, some men are like monkeys—they will not learn from the experience of others.

Men with creative instinct are naturally endowed with the gambling spirit. Creation is the result of experimentation. The experimentor is engaged in a continuous gamble. First the experimentor has a theory; then he tries it out. The tryout is a gamble. Just as soon as a theory is a demonstrated fact it is no longer an experiment. It is merely an exercise.

Design is always an experiment—therein lies its fascination. It is an opportunity

for one to exercise his natural creative urge. Every human being has an inborn desire to express himself. All forms of expression are more or less experiments in effect. It is just plain human to like to manifest one's ideals. Every person has inherent in him an inborn desire to speak his inner self in tangible form. When he does speak, it must be with form, color, or sound, according to natural bent.

The problem of human housing involves both form and color and it echoes in imagination with the sounds of human occupation. Strange it is that when an architect plans a house, always in his imagination the occupants of his dream house are to live happily ever afterwards. It is that anticipation which gratifies his desire. The true architect never can admit that his homes may be the seat of domestic discord. To him the anticipated click of conveyor, the burr of the dynamo and the pound of the stamping machine are all parts of a great industrial orchestra which will make majestic echo through the precincts of his buildings.

Opportunity for design exercise is an irresistible lure to the architect. He believes the real estate exploiter because he wants to. He can see only entrancing opportunity for experiment with solution to meet conditions. The architect is lured into entering silly competitions and to make free sketches because he wants to be lured. He has heard old men recount their grief of experience. He has been told with copious illustration that all competitions are but vanity, but he believes it not. The architect is credulous because he wants to be credulous. He with his compeers resolve to ban all thought of again participating in unrestricted competitions, but he and they break the resolution. Men are weak. They are just monkeys without tails to save them. With burning fur they cry out in the agony of their pain, "Why are competitions permitted? The other fellow is giving free sketches—I have to." The sequel is that the other fool's free sketches along with theirs are turned over to the dreamless matter-of-fact builder to build as the builder's own. The whole free sketch outfit are just a bunch of suckers. They are voluntary fuel for the fire but do not enjoy the burning.

Some realtor people not far from here (Chicago) had a bright idea. Real estate was not moving, in fact was not likely to move soon. With no movement in real estate there would be no commissions to pay for publicity. A realtor maintains the breath of his life through the nourishment of publicity. Without an atmosphere of publicity he cannot live. If he has no money to pay for publicity, he has to have it anyway.

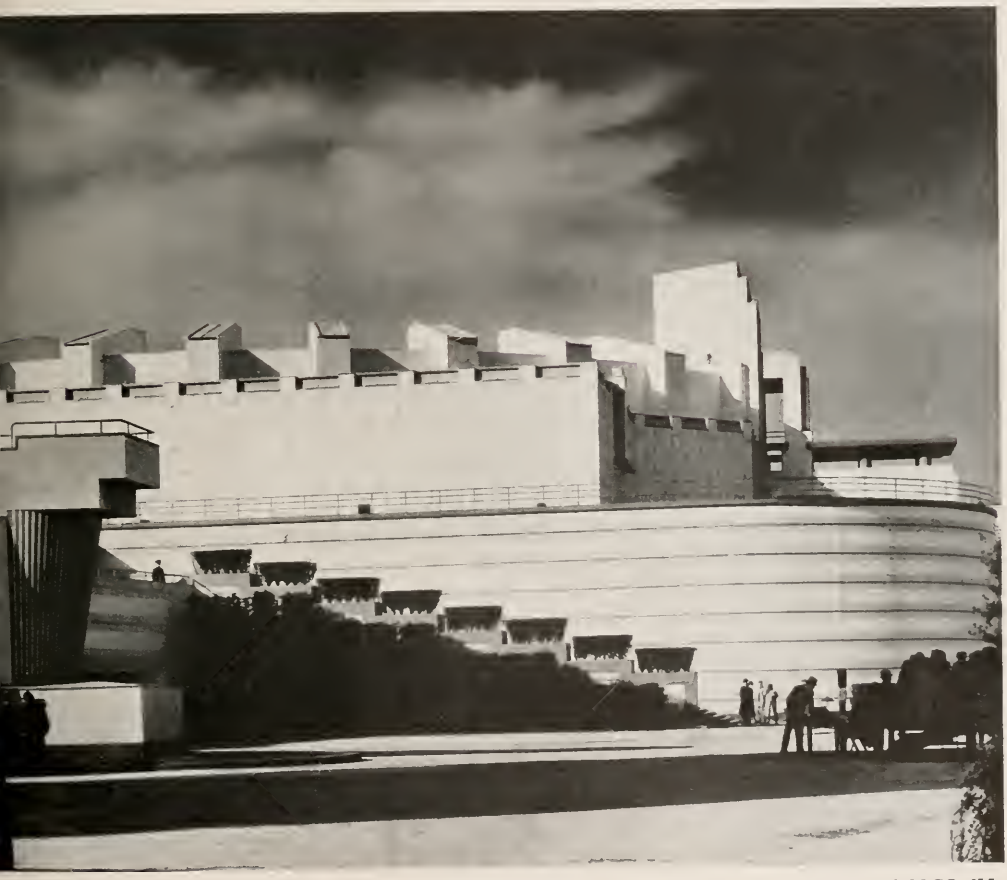
The realtors met, thought, and struck upon the architectural monkeys. They were sure they had the solution. Here was an opportunity to get publicity without much cost. They observed that the architects were without opportunity to gamble on their ability to solve problems in human housing. Here was the realtor's chance. They would hold a house competition to encourage good housing. Oh yes! It would be philanthropic, all for the benefit of the dear, dear public. Real bull con artists victimize the public. They would offer a prize equal to the regular architectural fee for complete architectural services for one house. Twenty-five hundred architects would respond. Twenty-five hundred cheers for the sometimes reputed real authors of the nice little depression we are enjoying. Be it remembered that it has sometimes been said that if there had not been such a crazy deluge of real estate subdivisions and so many speculative buildings loaded with financing cost water, there would not have been defaulted bond issues, frozen bank assets and ultimate bank failures. Maybe so; we know the depression is here and we need a goat.

They figured big, these realtors. As a mere matter of fact in 1932 there were only 2,382 resident architects altogether in the states of Illinois, Indiana, Iowa, Kentucky, Michigan and Wisconsin. It is a habit of realtors to figure big. Recollection of a real

estate sub-division sale of business lots makes their bigness clear. They generally sold enough business lots to supply the district to be served with business facilities for at least one hundred years of continuous growth.

The competition was held. The agreement with the competitors said all drawings submitted were to be the realtors' property to have and to hold until they, the realtors, wanted them no more. The winner only was to have a job for a fee slightly less than if he were given the commission direct in a regular legitimate way. One hundred and one architects responded. One hundred and one, say, $20,000 machines swung into action and with feverish activity pushed forward for, say, forty hours. surely not less. Four thousand forty hours for one trained human machine. If, instead, these realtors had employed a modern excavating machine such as sells at the present time for around $18,000, the fee charged for this service would have been around $40,000. The mere money comparison is potent, because under most favorable conditions it takes at least eleven years of time after a boy has finished the grade schools and approximately $20,000 of economic expenditure to produce a qualified architect.

Are architects always gullible? Is there anything that can protect a man from the consequences of over credulity?



HALL OF SCIENCE, A CENTURY OF PROGRESS, CHICAGO, ILL.
Paul Philippe Cret, Architect

A STREET SCENE IN MEXICO

VICISSITUDES OF A YOUNG ARCHITECT

by
ELMER GREY, F. A. I. A.

Eighth of a series of Reminiscent Sketches of Early Architectural Practice of the Author

SOON after my trip to the South Seas I recovered my health and married, and a year or so later my wife and I made a trip to old Mexico. She studied Spanish for awhile before we left which enabled us to leave the beaten track and see some places which otherwise we would not have visited.

Anyone going to Mexico for the first time should procure a Rean Campbell guide book. It is now somewhat antiquated, but is still the only one that is at all complete. Also before going read Prescott's "Conquest of Mexico". I know that many consider it more of an historical romance than exact history, but it is based on documents of the time and is probably as near the truth of Mexico's conquest as it is possible at the present time to get. It should be read because it gives such a vivid picture of the country's romantic background and thus greatly enhances the pleasure of a trip there.

No California architect need feel that to see fine examples of ancient architecture he must cross our continent and go to Europe. There is plenty of it right down in old Mexico. It may not be as refined as that of Greece and Rome, but when it comes to carved ornament in stone that is marvelous when the sun picks out its intricate and beautifully balanced patterns of light and shade—these enhanced in value by being concentrated within generous expanses of plain wall surfaces—in that kind of art the old Mexicans had it all over the Greeks and Romans.

Much has been written and illustrated about the more accessible towns of Mexico so in this description I will tell of only a few of the less familiar spots. Those who have read F. Hopkinson Smith's "White Umbrella in Mexico" may recall his description of a large Titian which he found hidden away in a remote Indian village in central Mexico, called Tzintzuntzan (pronounced Tsin-tsun-tsan). When he went there this village was reached only by crossing Lake Patzcuaro in Indian canoes, but now alas!—the canoes are things of the past—at least we made the trip in a prosaic gasoline launch! But the village and the Titian we did find. Whether it is really the work of the master seems to be disputed; but it is a fine picture nevertheless. I was told in Mexico City that $80,000 was at one time offered for it by an American collector but refused by the Catholic church because the Indian villagers regarded it with superstitious awe and would not allow it to be taken away. Smith also told a pretty story about having endangered his life in an attempt to see and examine it closely—but times must have changed in that respect too, for the only difficulty we had in seeing it was that of distributing plenty of tips!

In the same part of Mexico (west and

IXTAPALAFA, MEXICO
Photo by Elmer Grey

AN INTERESTING BIT OF MEXICAN ARCHITECTURE
Photo by Elmer Grey

south of Mexico City) we took a little narrow gauge railway which starts from Morelia and runs over some incredibly steep grades in the mountains down into the hot coffee country to a place called Uruapan. There we found the real old Mexican atmosphere untainted by modern influences. Already we had had beautiful opals offered us for a mere song at the railway station of Queretaro — reminding us of Prescott's stands in the "portales" or among the surroundings trees. In some places old men and women sat before their wares with immobile faces, their taciturnity making us feel that Indian blood was in their veins. At other places the venders were younger and gayer, consisting of pretty girls and swains who furnished music of mandolin and guitar. The entire scene was lighted solely by torches and the populace moved

COVERED BRIDGE AT URUAPAN, MEXICO
Photo by Elmer Grey

stories of Mexican treasure and of the old Spaniard's ways of torturing the inhabitants to make them tell where they had hidden it—but here at Uruapan we found the people, the customs and the costumes which fitted in with such a picture.

It was dusk when we arrived and some kind of a fete was going on (they have them in Mexico rather often!). The people for miles around had brought in their wares to sell — pottery, hand-wrought copper utensils, serapes, etc. These they had deposited often right on the cobble-stones of the public square, the venders squatting down behind them; but elsewhere they were displayed more pretentiously on raised in and out of the flickering lights and dark shadows thus formed, their brilliantly colored serapes, broad rimmed hats and swarthy faces lending just the right note to the theatrical effect.

The hotel in Uruapan was crowded and had only one vacant room left. It had no windows but only a door opening upon a patio. When we retired we left this open for ventilation. In the middle of the night we were aroused by a great commotion in the room, but it turned out to be only a dog and which had entered from the patio and were making a racetrack among our beds and table.

During our journeyings elsewhere our

train passed through the town of Saliya, where we noticed the sign of a promising looking bath establishment. Previously we had seen a sign from the train which amused us, one over a brewery and reading in English, "The beer that made Milwaukee jealous"! But when we saw this bath establishment advertised we took it seriously and decided to stop on our way back and patronize it. When we did so and found the attendant we were given, in lieu of the towel, soap, wash rag, etc., to which we were accustomed, various articles the purpose of which we had to figure out. One looked much like a small candle snuffer and we never did discover what it was for. After presenting us with these curiosities he led us down a long arcade upon which the bath rooms opened. One of these he unlocked and proudly waved our attention to its contents. They consisted of a cement tank about six by eight feet in size into which water was pouring in considerable volume at one end. He was about to depart when my wife told him that she also wanted to bathe. At this he gave us another majestic wave of his hand and indicated with brief remarks which we did not entirely understand that the one tank was the only one available and was intended for us both! I had read about the two sexes bathing together like Adam and Eve in some parts of the world, but never supposed that it would be brought home to me in just this way!

We found all of Mexico interesting and picturesque but the pleasure of our trip was greatly marred by unclean beds at hotels. Perhaps we were particularly unfortunate in our choice of hotels but I would advise anyone visiting Mexico to take their beds with them if possible! It got so bad with us finally that it caused a temporary separation between husband and wife! I got up one night and declared that I was going to another hotel. My wife was sure that another would be just as bad, and surrounding herself with a barrage of insect powder, decided to weather the storm. I carried out my threat, however, and went to a hotel across the street—where billiard players in the room next door kept me awake all night!

ONLY

two more installments of Mr. Grey's interesting reminescences remain to be published following which the author expects to rearrange and supplement some new material for a book. The volume is likely to be in demand for the articles in THE ARCHITECT AND ENGINEER have attracted widespread interest and comment.

"THEES ESS CALIFORNIA!"

A Los Angeles Architect Takes a Fling at Modernism

by
LLOYD SANDERSON

AN ambitious young architect, with an important commission in his pocket, set out in the late afternoon for a little air, exercise, and possibly the illusive thing sometimes called inspiration. He was irritated over the difficulties of his problem—an art shop facing West Lake Park in Los Angeles. The main business of the establishment was to be the sale of artist's supplies, with a mezzanine floor for art exhibits, studios above for artists, and, of course, a powder room for dames with temperamental complexions.

The front elevation and interiors were giving him no end of trouble. The far flung fame of the old classic masters made him blush every time he looked over the wash renderings made in his college days at U.S.C. Rome, too, presented a real mountain to overcome whenever he thought of doing something ornate.

But tish!—he was not going to crib some dead genius. Certainly not. Hadn't he just finished a course of five years, spent thousands of dollars in learning design, and remembering many a lecture on cribbing? None of that for him. After all he was a modern, young architect of 1933 with an age of his own to express.

But it was this that bothered him most. To design an art store that would really express the essence of both ancient and modern art was a tremendous task. It was like trying to make a movie of Messalina.

Every time he had attempted the facade, which was to face avenues of majestic palm trees, his imagination carried him to the Mediterranean, the home of the palm. And his waste paper basket had been many times flattered with excellent bits of Renaissance, Romanesque and even Spanish Moresque.

Could he never get away from the vicious dark ages, he thought? Los Angeles was modern. Or was it? Or why shouldn't it be if not? But of course modern.

The flare for the Spanish which had been so popular but dishonestly done, had now passed into history. At least some of the best minds in the profession were saying it had. After all it was not a good thing. Spain was a stupid country anyway—full of slovenly loafers, given over to sleeping during precious mid-day business hours. He would do something brisk. Something snappy and brilliant, incorporating new materials in a straightforward logical manner. There would be no silly cut stone to collect dust and microbes; no cartouch either. Heraldry was dead.

He had noticed in the architectural magazines the modern work of German and New York architects, and surely he would not be outdone by them. Not an architect in all the East had a better mind or training than he had, he concluded. He would show them up and make a name for himself, and Los Angeles as well.

But palm trees—they haunted him. Why had they not planted pine or maple trees instead of so many palms? Palms were the very essence of the tropics. Nature's own fair road sign advising "This is the land of the sun, take your time if you will discover my great and endless beauties."

Palms, short and tall, young and old,

fan and date, palms, palms, everywhere he turned he saw them. Could he not get away from them for an hour? To do so he swung up an avenue of Eucalyptus trees. These concealed, fairly well, a row of mediocre apartment houses, built no doubt by retired eastern farmers without the aid or advice of architects, and at a time when almost any architect would have done the same sort of thing, since many of the old timers had come to California from the land of lightning rods and coal stoves. After all there was rare beauty in the Eucalyptus trees with their tall, graceful trunks, pale coral branches and evergreen leaves. Here again was a symbol of the tropics. Well, what could one expect in Los Angeles? A city founded by Spaniards and occupied by them so long could hardly be otherwise. It was not a bad beginning at that. The old priests who had founded the Missions up and down the Californias had been jovial fellows. They possessed none of the stern ducking stool psychology conspicuous in the more severe puritan founders of New England, and they had introduced into a far flung Spanish frontier a carefree hospitality that was still bragged about in tourist propaganda.

At the corner an unemployed youngster eloquently bummed him for the price of a sandwich, and having little change on his person, or in the bank for that matter, he was obliged to refuse. This made him feel rather depressed. Would this damn depression never end? The streets seemed full of honest beggars. To avoid them he boarded an approaching street car.

As he fished for his fare he noticed an elderly man, whom he had just seen making his exit, reboard the car.

"I wanted to get off at Alvarado," explained the old man as he confronted the conductor again.

"Valencia don't sound like Alvarado," growled the corporation's collector of coins and transfers, neither granting nor refusing the additional ride. "Huffy" guys these "cons," thought our architect as he squeezed and maneuvered his way thru' the crowd of bebundled shoppers hanging from the straps like so many dressed puppets.

On the front platform he found a place to stand and began to read car advertisements. "Personal; Will the gentleman who just coughed take a Smith Brother's cough drop?" Another, featuring some empty glasses, read: "Breathem; Drinkem ready when you needem, slipem on your tongue for halitosis freedom". Still another: "Happy?—Sure, I have just had my daily bath!" Such affront, he thought, the ego of advertising had never struck him so forcefully and he was thankful he belonged to a profession above such crudeness.

Peering out of the car windows he was amused at the huge red lettered signs he saw hung upon the shops, covering much of their architectural refinements.

"Receiver's Liquidation Sale", seemed almost as popular as "Deep Cut Prices", "Quitting Business Forever", also seemed to be in great favor. One could see a lot from a street car window, he mused. Driving a car now days was largely a daring game of tag between red and green goals.

At the conductor's announcement of Alvarado he elected to get off and take a fresh look at the site of the art store. No harm to be perfectly familiar with the surroundings, he thought. Westlake Park was a spot he had paid little attention to in the past. As he stepped along at a lively pace he was surprised to find so many idlers seated upon the park benches. Unemployment seemed to be a greater outdoor sport than he had imagined. Lucky fellow, though, to be in Los Angeles, no frozen ponds or leafless trees to accentuate the gloom. He was enjoying a landscape of evergreen trees silhouetted against a field of gorgeous orange colored light, freshly painted by the setting sun, when he accidentally bumped into a Mexican laborer coming out of a park walk. The Mexican graciously bowed and in the language of old California, profusely apologized. Translated in English it was: "Please pardon me mister, I am ashamed to be so careless.

Very good afternoon to you and go with God."

Such extravagant speech, but pleasing to say the least. It brought to mind similar incidents in Mexico City. There our young architect had spent a summer studying with a group of students of architecture, following his graduation. Here he had been more or less impressed by the charm and simple dignity of this happy, carefree people.

Opposite the location of the proposed new art shop he saw an unoccupied bench. He decided to sit down and review the many complications of his problem. It had been a lovely warm day and the feel of the sun-kissed bench to his back and legs produced such a pleasant sensation he had half a notion to thank old sol for the favor.

The site was not as wide as might be wished for in a case of this kind. Whatever beauty it possessed would have to be concentrated into a very small area. There was an insistent demand on the part of the owner for ridiculously large windows. Why would merchants never see that few people ever looked in their windows at their goofy display of merchandise? They would do well to study the technique of the grass-skirted Island dancers who had learned from long study that a suggestive "bit" had far more telling effect than give-away display.

The surroundings were none too good. A wild assortment of stores which had been built over a period of twenty years or more, representing practically every architectural bug that had been felt in Los Angeles during the time. None of them good, yet none particularly bad.

In most cases it was not hard for him to pick out the plates that had suggested them. A garage faced with white enameled brick was of no historical style at all, but rather reflected the poverty of its designer's mind. Perfectly plain walls rose above the roof with no hint of satisfying cornice. The windows, large and covered with signs, were out of all sense of proportion to the general shape of the building. Utility had been the only consideration here. What an aspect for a beautiful park to face. It was a good thing the trees had no way of manifesting their objections; surely they would have caused it to collapse if they felt a more artistic neighbor might have arisen in its stead.

Another building was obviously cribbed from plates in a book of Spanish architecture, except that the architect had been unable to produce sufficient bulk to make it feel convincing — and had muffed the color a bit. But at that it was the best looking building on the block.

If cribbing was necessary at times, why in the world didn't cribbers go about it more honestly, he wondered. There was sufficient wealth of tried and true examples of architecture in the old world to provide every cribber with a splendid prototype to follow in practically every style and period. The trouble seemed to lay in their inability to retain the true character of the selected composition in enlarging or reducing it to fit their particular need. And in their utter and absolute failure to comprehend the philosophy and mode of life of the original builders. Many a California "Spanish Castle" turned out to be nothing but a "tiffinied" bungalow when the thoughtful Mexican maid removed the string of red chilies and matate from the fireplace to the kitchen.

He decided not to crib this problem. He would do a modern thing in a straightforward, modern way. Just then a small roadster pulled up at the curb and the boy and girl riders got out and quickly sought the deepening shadows of the park. His eye followed them as they slowly wound their way, arm in arm, down the gentle sloping lawn to the edge of the lake. Why had they not noticed the buildings across the street? What was the lure of the Park, anyway? The trees, the flowers, the lake? Could man never fathom the secret appeal of nature sufficiently to be able to compete with it? Would people fail to notice his building when it was completed? Would it attract the admiration of a single damn tree?

Did nature ever become dissatisfied with the form of things like trees and seek to modernize them? How would a jungle

monkey take to an "impressionistic" conception of a palm if one could be induced to grow and bear "futuristic" cocoanuts? And how would it affect young lovers who seemed unconscious of everything, except the irresistable attraction of its seemingly hit - and - miss compositions of twisted branches and ever shifting leaves? Was it hit and miss or was there a theme, if not a definite plan? If a plan, what?

He thought of the tropics, of the temperate zones and the arctic. Of their bounderies and over-lapping regions. How would the banana plant fit into a landscape of snow and ice? No! Artistically, no! And by the same deduction arctic life would not appear well against a glassy tropical sea or the extravagant growth of a green jungle. There evidently was a sort of a theme. But California geraniums would grow in Indiana, well cared, sometimes. So the plan wasn't absolute, or was it?

As he sat pondering over the possible significance of these strange signs and wonders which seemed to be bearing down upon him like so many imps of iniquity, bent upon torturing a chosen victim, he became aware of a recently arrived bench fellow. Strange, he thought, he had seen no one approach.

"Good evening, my friend," spoke the aged voice in soft, broken English, "I hope I have not deesturb you?"

"Why, not at all. Your face is strangely familiar, who are you, may I ask?"

"Pardon me, mester, you would not believe me if I told you. Et might give you a leetle startle eef I introduce myself."

"No, why should it? I am Architect Bodkin.

"Well then my good friend, seence you have been so kind as to announce me your splendid name I tell you with great pleasure, I am the spirit of old California."

"You don't say?"

"Sure it ess so, Meester Bodkeen. I meestake thees palms for those of the Meeshon enn the darkness. I am very old you know and make these leetle mistake, now and then. But thees park ees not new weeth me. No, I have veesited here for many years. Thees palms are very dear to me. Yes, een my young days I have brought them all the way from Espain, to grow and live here een the warm sun, to delight the people with their shade and fruit. Are you a Californian, Meester Bodkin, may I ask please?"

"I have lived here fourteen years and I wouldn't go back to Indiana if they gave me the whole state—yes I imagine I am a Californian."

"That ees good, my friend. Life was very fine here long ago—it may be again."

"Why not now, senor?"

"No, not now. When first we came thees lovely land was free and easy. We brought from Espain the orange, the lemon, the grape, the feeg and the almond — cattle, too, and sheep and goats. Then we settle down to enjoy every beautiful moment of life. You see what has become of it. Have you ever been in Espain?"

"No, only in Mexico City for a short time."

"Ah, then you know the siesta and the pleasure of the late night—out under the beautiful moon with music and wine. Did you like the wine, meester?"

"I certainly did. But haven't you heard we are to have 3.9 16% beer very soon?"

"Beer—een thees land of the vineyard, how strange thees."

"Yes, everything is different now, senor."

"Ah, then you are becoming Californian. I see it een others, too. Sometimes the beg beezness man take one half hour off weeth the coffee. Thees are real Californians, more rest, more time to think, eh?"

"If I had my home that is the way I would want to live, senor. Plenty of time to think and dream. Not much hope of that, I can't make enough money to establish a home."

"Too bad meester. What brought you here to thees park, some pretty girl, no?"

"No, senor, I have a commission to design an art store for that location over there across the street."

"That ees fine. Art ees like the sun, it burn a color into you that weel never come off. Some time, maybe, you have enough art here to make the Americanos see it too. I laugh when I see them come here from

over the desert—bragging about the east. No, they don't sabe thees place, thees ees not America, Meester Bodkin, and never will be. The sun he feex eet like thees and he weel never change."

"But we can't keep the Spanish customs, senor, this is a modern age."

"It takes a leetle time to make a Californian of an Americano, as long as eet takes to make a Spaniard of an Englishman. Eet happens though, every time an Englishman goes to Espain. Old sol, he never fail hees work. But the art building you make eet Spanish, Meester Bodkin, no?"

"No, senor, modern."

"Modern, what ees thees modern, please?"

"Of today, a style to reflect the present."

"But Meester Bodkin, tomorrow, today will be yesterday."

"True, senor, but of this era, great changes have come about since the war. We have radio, machinery, efficiency — these things are to be expressed."

"Ees it good to express thees leetle things een such beg things as the building. The church has not change, nor love, nor the want to marry and have the keeds."

"Yes, senor, machinery has changed our lives. We think differently, we act differently. Do you not admire our great progress?"

"Progress! with hunger and want een California. Tell me of thees modern—who deescover thees style?"

"It is a long story, senor—Germany to be brief."

Germany! por Dios, you are going to copy thees cold, calculating Germans after you have seen the beautiful reech style of Espain, Etalie and Greece—caramba, they are not artistic, they are blacksmiths. How are you going to make eet look, please?"

"It is a very striking style, senor. Beauty is effected in mass, proportion and line very economically. We let the scientific combinations of our new materials reflect their own importance. Cut stone, carved wood and other needless ornamentation has been eliminated. If our engineers and efficiency experts tell us a wall need be but three inches thick we do not make it thicker to support the imaginary weight of tradition. As we learn more of light, and color, and sound, we apply this knowledge to create more ideal working conditions. This is the machine age. A building is but a machine—why not have it look like one?"

"Machine, work, sure thees ees German. They fight for every crumb—too stupid to see that life ees more than war with meeserable crumbs. Machine! what does eet produce for you?"

"Well, senor, I guess you would say it produced unemployment, since many of them are shut down."

"Yes, I think that ees so. Like the machine do not use the fruit, the wine, the meat—neither do the machine architect use the poet, the painter, the sculptor you have spent meelons to educate. German machines for California—Santa Maria! You are going to let thees things keel your greatest cultural progress on account of Germans. They have no feeling of joy of life to express. But go ahead weeth thees modern. That ees what we did weeth the meesions — we made the walls five feet thick so we see weech will last the longest —California style or German machine."

"Could you let me have a dime?" spoke a voice that brought our architect to his feet. The bench was empty—work was at hand.

There was much stir in the rooms of Bodkin, the architect, the following day. Old volumes were studied that had not been taken down in months. "Machines," mused Bodkin, "they are as old as the first stone hammer." Michel Angelo had to avoid them, too. Those who would attempt to glorify a roaring press room or a boiler factory in art would have no more success than the Hindu faker who sought to glorify his pet snake.

California, the sun, the palms, the sea, the desert, the flowers, the grape, the music of singing birds and laughing mountain streams — all the romantic past, yes, and California's future, could not be expressed in terms of cold, stiff machine formula. Nor did he try. The sun had won, as it never fails to do.

PERSPECTIVE, HOTEL RENAISSANCE, FIFTH AVENUE AND 43RD STREET, NEW YORK

HOWARD AND CAULDWELL, ARCHITECTS

WATER COLOR DRAWING FOR A SHELTER IN A NEW YORK PARK
John Galen Howard, Architect

The Graphic Side of a Great Architect's Accomplishments

In this portfolio is presented some of the early executed works in New York City of Howard and Cauldwell. The Hotel Renaissance, pictured on the opposite page, was a distinguished structure for some years on the southwest corner of 43rd Street and Fifth Avenue, New York City. The building was enlarged later on and only recently was razed to make way for a skyscraper.

Next month's portfolio will include further selections of works by the New York office of Howard and Cauldwell.

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THE DE COPPET HOUSE, NEW YORK
HOWARD AND CAULDWELL, ARCHITECTS

PLANS, THE DE COPPET HOUSE, NEW YORK, N. Y.
Howard and Cauldwell, Architects

OF special interest is the De Coppet House for the reason that it was for many years the home of the famous Flonzaley String Quartette. Placed between two typical "brown stone fronts", the building illustrates the changing style at the turn of the Century.

BRIDGE IN BRONX PARK, NEW YORK, N. Y.
Howard and Cauldwell, Architects

WHAT PRICE CONFORMITY?

by
ANSON BAILEY CUTTS, I. I.

As American cities grow daily more like one another under the influence of the "modernist" skyscraper vogue that threatens to sweep the country like an invading army, one is tempted to question whether these advanced manifestations of the Machine Age may not often be the result of mistaken or ill-furnished civic ambition. One given to introspection in such matters may well view with alarm rather than exultation the overwhelming unification of our urban architecture, that is progressing so ruthlessly at the expense of, and too frequently with utter disregard for, local or regional styles. In some localities the insidious aspects of the problem are not yet apparent, due to the lesser degree in which they have responded to this urge architecturally to "blow off steam" with some attenuated symbol of congestion, though it stand in the middle of a prairie. Could we but express architecturally in our cities their subtler differences of spirit, distinct and varied personalities would result. It is largely owing to varying degrees of this quality that some are possessed now of character and appeal, whereas others are devoid of either.

Granting that a large number of our communities owe their existence to the exigencies of commerce and have had singularly sterile backgrounds against which to develop a personality, I believe most people acquainted with the cities of the world beyond our borders will agree that by comparison we have made, for the most part, rather a sorry mess of the distinctive architectural traditions, with which many of our older communities originally were endowed. Analysis discloses the fact that what they possess of charm, of individuality, of glamour, is most often a heritage from generations several times removed or

ONE OF GOODHUE'S PLAZAS, EXPOSITION GROUNDS, SAN DIEGO
Sketch by A. B. Cutts

from some locally-adapted culture. Age alone can not account for the innate beauty and diversity of certain New England cities, not to mention innumerable architectural centers often of kindred allegiance abroad. Nor can it explain the extraordinary spell New Orleans' *Vieux Carre* has cast over visitor and citizen alike throughout two centuries of change and which has lost any considerable part of its attraction only through the encroachments of lavishly modern but altogether alien constructions within the last decade and a half.

New York, Washington, Charleston, Santa Fe, and Santa Barbara, almost alone among the cities of the nation, have developed consciously within their traditions. And the birthplace of these United States —one of the most perfect specimens of Americanized Georgian, Independence Hall—is decaying for want of paint and repair while on every side its beauties are nullified by the eclectic enormity of adjacent Philadelphia skyscrapers.

Within recent months the profession has been shaken to its foundations by the published announcements of several apostles of a new era, now variously involved in the consummation of New York's gigantic Radio City, in which many others claim to foresee the ultimate of communal abnormalities. Vehement challenges not unmixed with condescension were flung Lucifer-like from on high at our few remaining, and ever-so-slightly-discredited purists, conservatives, and traditionalists who under the able championship of two such dissimilar geniuses as Ralph Adams Cram and that arch innovator, Frank Lloyd Wright, have replied vehemently in kind.

But what of the protests of the average man whose way of life will be most affected by this super-pueblo tendency in the all-too-menacing future? He is expected to swallow whole what the Gods provide and any "still small voice" crying out against such annihilation of the projected culture of the Fathers of the Republic is drowned by the riveters. The assurance that henceforth "the engineer and plumber will supersede the painter and sculptor" as administrants to our artistic needs is not particularly consoling, nor are innumerable sterile forecasts, obviously calculated to prepare one for what is to come. If he fails to feel himself quite helpless when confronted by the Gargantuan off-spring of such combines of high-finance and architectural racketeering the citizen has only to thank an indiscriminating frame of mind into which the nation has been unwittingly stampeded for some years past. New York is only a starting point. One may confidently expect smaller and less defensible *Radio Cities* to spring up from coast to coast; yet it is hardly an outworn axiom that the creative architect, like the dramatist, should concern himself with the factor of place as well as of time. It should be as much within his province to express by his art the character of a locality as of the age in which he is working.

My purpose is not to undervalue either the rational development or the conspicuous merits of many "setback" designs, nor to overlook the very definite aesthetic advance that they signify over their immediate forbears. A skyscraper, a church, a theatre or a public building conforming to this New Tradition may conceivably enhance a city's "personality" particularly in the Middle West where communities are more authentically products of the present age. But the tenets of any architectural creed, no matter how national, should not be tolerated in a locality possessed of traditions and tastes with which they are inherently at variance. The line of demarcation is necessarily an arbitrary one, but should be borne in mind more frequently by our city planners. If this is not done, and if destruction and construction proceed at the present astounding rate, within a century Boston will as much resemble Hollywood; San Francisco, New York; Charleston, Seattle; New Orleans, Minneapolis; as so many peas in a pod. Only the topography of their sites and the accents of their peoples' speech will differentiate them one from another (if, God willing, we do not first reduce the one to an invariable penoplain in the name of auto highways and the

other to an inviolable twang in the name of democracy!) What the more personable cities of America need most in their present dilemma is the courage to adhere to an architectural Declaration of Independence. Let them remember that:

When in the course of human events it becomes necessary for one city to dissolve the aesthetic bonds which have connected it with another and to assume among the municipalities of the world the separate and equal station to which its history, its traditions and its accomplishments entitle it; that when any architectural movement becomes destructive of these ends, it is the right of the citizens to alter or to abolish it, and to institute a new code, laying its foundations on such principles and utilizing its characteristics in such form as will seem most likely to protect and enhance the individuality, character, and culture of the locality.

Let us bear in mind that the most populous are not necessarily the most agreeable places in which to live nor the most prosperous in which to do business. Let us expand gracefully. Perhaps it is another of the prices we, as a people, shall have to pay for our giant democracy, that in order to raise the architectural standard of the majority of these communities in which we center our hopes and ultimately build our homes, we shall be obliged to lower that of the richly endowed few. But one must fight against such a calamity.

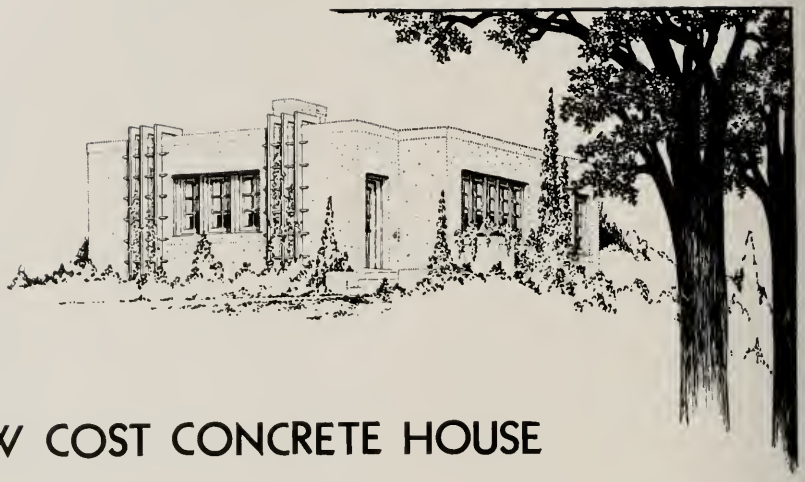
Are the patrons and architects of America so lacking in ingenuity and vision that they are unable to evolve other styles more eloquent with the spirit of New England, the agrarian South, the Southwest, or of Canada than these Babylonianesque monoliths dictated by a New York zoning law—commendably logical and even functionally symbolic though they may be within their proper sphere?

At least two interesting experiments with skyscraper architecture inspired by the Colonial have been executed in New Haven and Philadelphia, while the unfinished Canadian-National Hotel towering above Vancouver, B. C. epitomizes in mass, organization and detail the glorious chateau tradition that eminates from Quebec. In its high-pitched roof and modernized detail one senses the elements of a new style indigenous to the Dominion alone. But such examples are ominously sporadic. A gulf in architectural accomplishment as wide as the continent itself separates the new Memorial Opera House in San Francisco from Radio City's eccentric hall—the one exemplifying the chaste dignity attainable in modern theater design, and admirable for a consistent retention of the human scale throughout; the other lamentable as our most ill-timed expression of the impractical perpetuated in colossal form.

After viewing the angular erections for Chicago's World Fair, (see cover design), one wonders anew if Bertram G. Goodhue's Exposition plazas in San Diego—already nineteen years out of date—are to go down in history as a last coherent expression of unadulterated taste and charm in civic planning; if the noble visions of our few Civic Centers will not be lost in the shuffle and disintegrate as is prophesied by advanced pioneers of the Future Architecture.

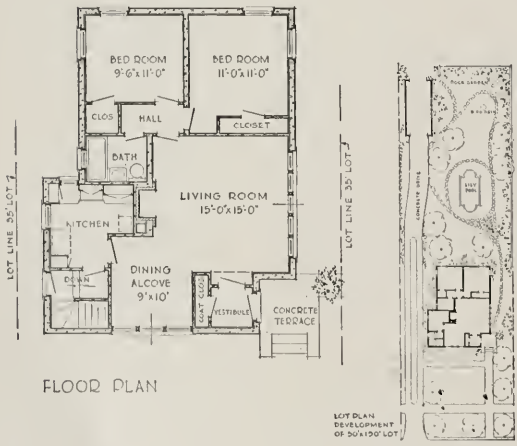
Are the many American variants of our rich Georgian, French and Spanish-Colonial heritages doomed to die without more significant issue in an all-consuming and more vulgar orders of things? Have we, of all peoples, the insolence, to reject the aesthetic harvests of the past in toto?

If such is the case, one had best make the most of whatever variety still exists among our cities, and forget that ahead of us lies an era of standardized and nation-wide urban monotony without equal in the history of civilization.



A LOW COST CONCRETE HOUSE

IN publishing the above perspective last month the floor plan of another fire proof concrete home was inadvertently shown. The correct plan is given here and it shows a very interesting arrangement for a low cost four room house with attractive lot plan development.



This design is quite modern. It is not extreme; rather, its simplicity makes it attractive. The construction features, too, are interesting.

Sturdy walls of concrete masonry left plain or decorated with Portland cement stucco or Portland cement paint help to keep the first cost low. These materials are available almost everywhere and are economical. They will not burn nor suffer any appreciable damage when exposed to fire.

The reinforced concrete first floor and roof make the home rigid, durable and fireproof.

These construction features provide for low depreciation, low maintenance and long-time economy. The concrete materials are permanent and durable. The concrete floor and roof tie the walls rigidly together; practically eliminate sagging or other movements that cause plaster cracking.

Modern in appearance and plan, this low-cost, fireproof concrete home has none of the freakishness which features many modernly designed houses. It is built without a basement, with its rooms all on one floor and conveniently arranged.

HEATING AND AIR-CONDITIONING PLANTS IN THE H. E. HUNTINGTON LIBRARY

by
JAS. R. FERGUSON

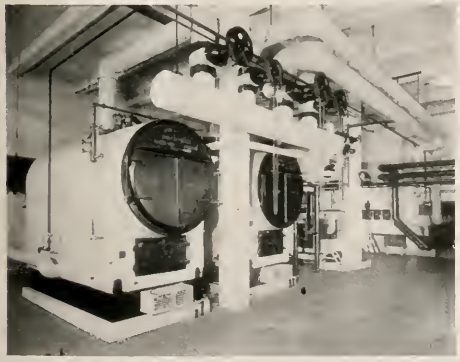
THE architectural and engineering professions have manifested interest in the heating and air conditioning installation of the H. E. Huntington Library and Art Gallery at San Marino, California. Most exacting atmospheric requirements are encountered in a building of this kind; here particularly, historical manuscripts, parchment documents, previous bindings, etc., demand a certain degree of humidity that must be unvarying for the preservation of the building contents. One of the finest reference libraries in the world is incorporated in this institution.

The gas-fired heating plant and refrigeration plant are housed in a separate building adjacent to the main stack building of the library. The library is divided into four sections, stack rooms, manuscript stack rooms, reading rooms and reference rooms. In the stack rooms, a unique construction feature has been achieved in placing the stack levels at 7 ft. intervals on a light structural steel framework.

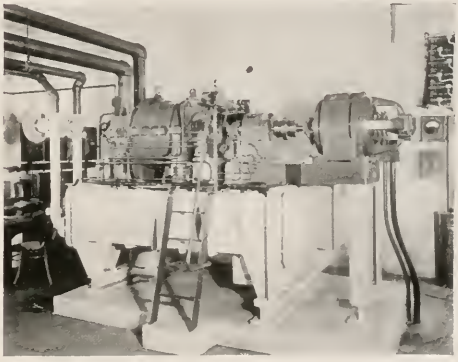
Two steel boilers compose the heating plant, each supplying 15,500 sq. ft. of radiation, with a total capacity of 31,000 sq. ft. Gas and steam pressure regulators operate the gas supply to two venturi type burners on each boiler. There are centrifugal pumps on all water equipment, and vacuum pumps on the return lines.

A heating tunnel, 5 ft. by 6 ft. 6 in. supplies the main library building, and a branch tunnel supplies blast radiation to the Art Gallery. Another small branch line supplies the administration building from the main library building.

Absolutely no leakage is found in the main library building, the structure being practically hermetically tight. A large portion of heat distribution is accomplished through insulated ducts built right into the stacks. Great care was exercised at the



GAS FIRED BOILER INSTALLATION, HUNTINGTON LIBRARY, PASADENA



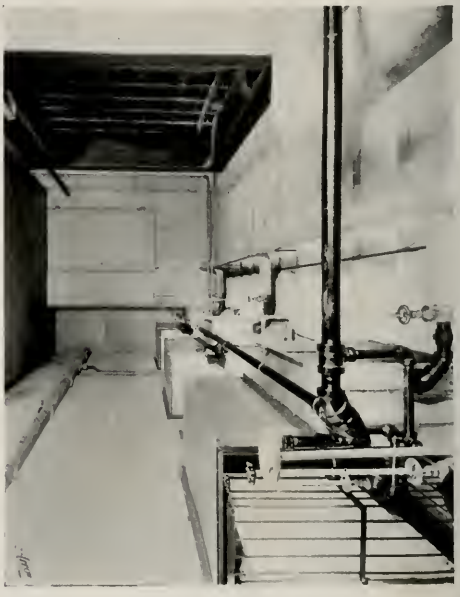
REFRIGERATION UNIT, HUNTINGTON LIBRARY, PASADENA.

HUNTINGTON LIBRARY, SAN MARINO, CALIFORNIA

time of installation to blend all mechanical equipment into the building style.

A dehumidifying and refrigeration unit conditions all air for the library, with four heater coils drawing cold air through the washer. The equipment is entirely automatic and is especially designed for air-conditioning work. The normal range of the cold water is from 46 to 54 degrees, and the equipment can deliver water to the dehumidifiers at 36 degrees. A constant humidity is maintained with great efficiency throughout the whole year, at from 54 to 55, with a 72 degree dry bulb temperature for extremely valuable books and manuscripts. The reference library is heated by ordinary coils.

Due to the importance of exact heat and humidity necessary in these buildings, it is a remarkable example of what can be accomplished with carefully planned gas-fired heating and air conditioning equipment. The system at the Huntington Library was designed and planned by Elliott Lee Ellingwood, consulting engineer.



PREBEATERS FOR AIR AND AIR WASHER

BOOK REVIEWS

By Edgar A. Kierulff

TRANSITION ZONING By Arthur C. Comey. Published by Cambridge - Harvard University Press. Price $2.50.

Being volume number V in the Harvard City Planning Studies, this series of treatises has now added a new title and like its predecessors, it needs little or no introduction to the interested readers and students of city planning. The entire series comprise the best that is to be found in constructive criticism, careful analysis and wide knowledge of a vital American problem—that of planning our towns and cities.

This present volume is concise and well illustrated and covers the latest problems and results of surveys in transition zoning. The architect who has the other four volumes will, no doubt, welcome this addition to his library.

ARCHITECTURAL PLANNING OF THE AMERICAN COLLEGE By Jens Frederick Larson and Archie MacInnes Palmer. Sponsored by the Association of American Colleges. Published by McGraw-Hill Book Co., New York. Price $2.00.

A thoroughly comprehensive and interesting book, embracing the wider development of sound college architecture keeping in mind the utilitarian problem with which most colleges and higher schools are confronted.

The book is admirably illustrated and the general set-up is pleasing. California architects will be particularly interested in the sections given to Mills, Pomona and Scripps colleges, illustrating as they do, the recent additions to the first two and the development of the latter into a charming and delightfully situated educational group.

All architects who are seriously interested in school and university development will surely find here an answer to many perplexing questions and should gain valuable information from a close study of this volume.

"HOW TO JUDGE A HOUSE"

"A well constructed and properly designed house still is the safest investment in America," says N. Max Dunning, Fellow of the American Institute of Architects of Chicago. "Home ownership, however, cannot be of lasting benefit unless the investment is based on sound value."

Mr. Dunning is the chairman of the "How to Judge a House" committee of the National Committee on Wood Utilization, United States department of commerce. A publication under this title has been issued for the benefit of the prospective home buyer, pointing out the details of construction and design, a knowledge of which will enable the non-technical prospective purchaser to determine the value of his purchase.

The average man, the bulletin states, often has difficulty in checking up on building materials and their application. If the framework or the foundation are of poor construction, costly repair work will follow. The bulletin also shows how to avoid extravagance in construction, thereby securing the lowest possible rental values.

"The American public is more critical of values today than ever before," says Dunning, "and this booklet will encourage good building practices to cater to public needs."

"How to Judge a House" is an 85-page, illustrated bulletin, which may be secured at a cost of 10 cents a copy from the superintendent of documents, Washington, D. C., or any of the district offices of the bureau of foreign and domestic commerce, located in the principal cities.

BETTER HOMES CONTEST

Organized for the sole purpose of promoting the sale of home equipment, house furnishings, and building materials, more than 130 Better Homes Contests will get under way this summer. They will be operated in co-operation with newspapers and most of them will be coordinated with the National Better Homes Contest sponsored by "Better Homes & Gardens."

Both the Community and the National Better Homes Contests offer prizes for the best home improvement projects started and completed during the term of the contest.

One of the first to announce a Better Homes Remodeling Contest was the Camden, New Jersey "Courier-Post." Like other announcements, pages and double pages were used by this newspaper. The first day, 31 home owners entered the contest.

Thousands of dollars will be offered as prizes in the local and community contests. These prizes are put up by the newspaper, civic organization, individual merchants, or others.

PREDICTS NEW BUILDING ERA

A new era in building, promising to let America's great skyscrapers grow old gracefully instead of having them torn down after a few decades, was advocated recently by J. C. Knapp, vice president of the Otis Elevator Company, in a speech made before the Architectural League of New York.

Mr. Knapp pointed out that in every country but the United States buildings are kept in good condition for long periods of years, even centuries. Suggesting that building owners in this country follow that example, he declared that a highly practicable way of doing this would be to utilize the services of architects to a greater extent than they are used at present.

According to the plan advanced by Mr. Knapp, the architect who designed the building would be paid a retaining fee to continue his interest in the structure. As a specialist in buildings, and in that building in particular, the architect would be best qualified to suggest changes and improvements to keep it up to date.

"The architect's role," declared Mr. Knapp, "should be, perhaps, somewhat similar to the one played by the family physician. He not only brings the child into the world but looks after the child's health through manhood and thereafter. The architect certainly knows more about his own building than anybody else. My suggestion is, therefore, that he captitalize on it, to his own advantage and to the advantage of the building."

The unsound economics of the present system of tearing down buildings after twenty-five or fifty years of service was also scored by Mr. Knapp. He pointed out that in this country buildings are considered a deteriorating investment, while in fact in a building structurally sound a large proportion of the investment is of a non-deteriorating character.

"The American theory," he said, "contemplates that at the end of twenty-five or fifty years the building will be useless; and, therefore, the investment must be written off. Such a practice seems to me wasteful and unsound.

"Instead of writing off a portion of the investment each year why not spend a part of the amortization reserve for the renewal of that part of the building that really deteriorates, the accessories and various services, and save the building itself? Spend this part regularly as conditions develop. Use it for the purpose of maintaining your property at its full earning status. With such a regular and continuous program of modernization the outlay each year will be found to be very moderate. It will keep the value of your investment intact, and it will maintain and even increase the building's earning power."

The plan for doing this with the aid of architects, according to Mr. Knapp, has been discussed with real estate men and architectural leaders, who have approved it.

Kenneth K. Stowell, editor of *The Architectural Forum*, who endorsed the plan originally, said in a recent statement: "For architects to be retained as maintenance consultants on their own buildings is entirely logical. French architects have maintenance departments in their offices, which handle nothing but remodeling and maintenance work. If American architects adopt the plan, it will mean that their offices will not be as seriously hit by the apparently inevitable periods of inactivity."

REDWOOD SHINGLES FAVORED

Producers and distributors of wood shingles have been mailed mimeographed copies of the recommended revision of the commercial standard for shingles which has been approved by the industry's standing committee.

"Commercial Standard CS31-31 has been preeminently successful since its establishment. The revised standard is without any change in the grading rules, it merely broadens its scope to include California Redwood and Tidewater Red Cypress as requested by the California Redwood Association and the Southern Cypress Manufacturers' Association respectively," says a communication from Harry H. Steidle, division of trade standards of the Department of Commerce. "The inclusion of these three important shingle species under one standard will doubtless be of mutual benefit to the industry."

CUT STATE DEPARTMENT BUDGET

Nineteen employees of the California state division of architecture have been dismissed in order to bring the division's budget within the $150,000 appropriation allowed by the legislature. The budget for the biennium was reduced from $438,000 allowed two years ago by nearly two-thirds for the next two-year period.

« « « « With the Architects » » » »

ALBANY HIGH SCHOOL

Bids are being taken for the construction of the first unit of a new junior high school building in Albany, Alameda County. The structure will be one story, reinforced concrete and will have eight rooms. The estimated cost is $35,000. The architects are Dragon & Schmidts, 3016 Telegraph Avenue, Berkeley, and the engineer is W. Adrian, 417 Market Street, San Francisco.

DOUGLAS D. STONE BUSY

New work in the office of Douglas D. Stone, architect, 110 Sutter Street, San Francisco, includes a large residence on Marina Boulevard, near Fillmore Street, San Francisco, for Captain D. W. Thomsen of the Standard Oil Company, estimated cost $15,000, and a house at 30th Avenue and Fulton Street, San Francisco, for Mrs. Eveline Kearney.

APARTMENT BUILDING

Contracts have been awarded for a three story frame and stucco apartment building on Union and Octavia Streets, San Francisco, for E. J. Pierron. The plans were prepared by Fabre & Hildebrand, 110 Sutter Street, San Francisco. These architects have also completed drawings for a dwelling in Oakland, and a beer cafe in the Mission District, San Francisco.

DEPARTMENT STORE BUILDING

Hyman & Appleton, architects, 68 Post Street, San Francisco, are preparing working drawings for a seven story and basement department store building at 1041 Market Street, San Francisco, for the Weinstein Company. The building will cost $80,000. The same architects have awarded contracts for additions to the residence of August Fritze in Sea Cliff.

$90,000 RESIDENCE

A two story basement and attic brick veneer country house is being erected at Woodside, San Mateo County, for Walter E. Buck of the American Commercial Alcohol Association. The plans for this $90,000 country estate were prepared by Farr & Ward, architects, 68 Post Street, San Francisco. There will be 24 rooms, nine baths and a six car garage, etc.

COLONIAL RESIDENCE

The office of Willis Polk & Company, 277 Pine Street, San Francisco, has completed plans and a contract has been let to A. W. Mattock for a $12,000 Colonial residence in Hayden Road, Hillsborough, San Mateo County, for W. L. Clary. The same architects have completed drawings for a Colonial residence in Hillsborough for Lloyd C. Simpson, estimated to cost $30,000.

ARCHITECT ATTENDS MEETINGS

Chandler C. Cohagen, architect of Billings, Montana, spent the first week in May attending two national meetings in Washington, D. C. and New York City. At the national capital he substituted for F. B. Connelly as a delegate for the Billings Commercial Club at the annual convention of the United States Chamber of Commerce. In New York he attended a meeting of the executive committee of the grand council of De Molay.

HOTEL ALTERATIONS

Extensive alterations and additions are to be made to the loft building at 1164 Market Street, which is to be converted into a hotel, C. A. Muessdorffer, architect. Approximately $30,000 will be expended on the improvements. The owner of the property is A. W. Wilson.

FRENCH DWELLING

Plans have been completed by Edwin L. Snyder, architect, 3101 Addison Street, Berkeley, for a French style dwelling to be built on Hilldale Avenue, Berkeley, for Russell N. Stanford. J. M. Walker is the builder.

OAKLAND ARCHITECT BUSY

Ray F. Keefer, 770 Wesley Avenue, Oakland, has completed plans for a brick veneer residence, in Rockridge, Oakland, also a home in Walnut Creek and a Class C store building in San Leandro.

PACKING PLANT

Albert C. Martin, architect of Los Angeles, has prepared plans for a reinforced concrete packing plant near Visalia, for the Sequoia Walnut Growers Association.

PERSONAL

William H. Whiteley, architect, who formerly maintained an office in the White-Henry-Stuart Building, Seattle, is now making his professional headquarters at 1033 Jackson Street, that city.

A. Gordon Lumm is a member of the architectural firm of Russell, Lumm and Lance of Tacoma, which until recently had an office in the Jones Building. At present Mr. Lumm is handling his work at his residence, 6416 South Lawrence Street, Tacoma.

Walter Lewis, who has been in Sacramento for six months working on a large alteration job has returned to San Francisco. Mr. Lewis was for many years chief draughtsman for B. G. McDougall.

Fred G. Rounds, formerly a member of the architectural firm of Nelsen and Rounds, Tacoma, now divides his time between Tacoma and Chehalis, Washington. He maintains his residence on Mercer Island, residential suburb of Seattle.

Lawrence Hauser, architect of Seattle, who graduated from the University of Washington several years ago, is back home at 521 Belmont Avenue North after an eventful winter experience with the Jack McCord Expedition in Southwestern Alaska.

Clare Moffitt, architect, who formerly made his headquarters in the Seaboard Building, Seattle, now maintains a studio at his residence, 4521 Tenth Avenue, Northeast.

Joseph S. Cote, architect, who kept an office in the Lyon Building in Seattle for several years is making his home with George Congdon at Kennydale, a settlement on the east shore of Lake Washington.

Michel Goodman, an instructor in the School of Architecture, University of California, Berkeley, has gone abroad for the summer. Before returning he will visit his parents in Palestine.

TO BUILD NINETEEN DWELLINGS

The Whitney Investment Company has announced its intention of improving nineteen lots in the district bounded by 34th, 35th and 36th Avenues, near Kirkham Street, San Francisco. Six houses have already been started from plans by Oliver Rousseau, 1067 Market Street, San Francisco.

LEO J. DEVLIN

Leo J. Devlin, architect, died at his home 160 Sea Cliff Avenue, San Francisco, May 18, following a lingering illness. Mr. Devlin was a native of San Francisco and was educated at St. Ignatius College, now the University of San Francisco, and the Boston Institute of Technology.

Mr. Devlin was active in the affairs of the Family and Olympic clubs and also belonged to the Knights of Columbus. He designed a number of institutional buildings, parochial schools and churches and since the San Francisco fire had maintained offices in the Pacific Building at Fourth and Market Streets.

Mr. Devlin is survived by his widow and four children, Leo Jr., Berchman, Robert E. and Miss Elvira Devlin.

ARCHITECTS AND ENGINEERS MOVE

W. W. Breite, C. E., has moved to 120 Battery Street, San Francisco.

Douglas D. Stone, architect, has moved from Oakland to 110 Sutter Street, San Francisco.

O. R. Thayer, architect, is now located in the Monadnock Building, San Francisco.

Charles E. Perry, Jr., has moved to 514 Marin Street, Vallejo.

Martin C. Parker, architect, has moved to 206 East 4th Street, Long Beach.

Robert H. Ainsworth, architect, has moved to 708 Central Building, Pasadena.

G. Stanley Wilson, architect, has moved to the Mission Inn Building, 3616 Main Street, Riverside.

BERKELEY STORE BUILDING

Stafford L. Jory, architect, 1370 Euclid Avenue, Berkeley, has completed drawings for a one story, reinforced concrete store building for Mrs. Anna Weeks, to be built on Telegraph Avenue near Bancroft Way, Berkeley, at an estimated cost of $20,000. The building will be 80x100 feet with concrete walls and Kawneer store front.

KEY ROUTE TERMINAL

Plans have been completed in the office of Kent & Hass, architects, 525 Market Street, San Francisco, for a new Ferry boat and train terminal, Key Route Pier, Oakland, to replace the structure recently destroyed by fire. The new buildings will be of steel and corrugated iron. T. Ronneberg is the structural engineer.

Chapter and Club Meetings

NORTHERN CALIFORNIA CHAPTER

The monthly meeting of Northern California Chapter, A.I.A., was held at Marquard's Cafe, San Francisco, April 25. In the absence of President John J. Donovan, Vice-President Raymond W. Jeans presided.

Mr. Allen reported for the Uniform Code Committee and by motion asked the Chapter's final approval of the wind and earthquake provisions of the Code. Following discussion, the motion was amended and it was passed that the Chapter approves the action of the committee and confirms the authority granted to it to act according to its best judgment in the matter of these provisions of the Uniform Code, provided, that the terms thereof shall permit the application of either the rigid or flexible theories of construction.

The Industrial Association of San Francisco requested endorsement of its appeal to the Secretary of Labor that the prevailing wage scale for public work in this district be established identical with the wages paid for like work in private employment. Mr. Narbett moved that the endorsement be granted and it was so carried.

In the absence of Mr. Donovan and Mr. Jorgensen who were at Sacramento in the interest of legislation which affects the architectural profession, the secretary gave an account of the status of various bills as they had been reported to him.

The following resolution was unanimously carried:

WHEREAS, The City Planning Commission of San Francisco has recommended to the Board of Supervisors a building height limitation ordinance governing the district bounded by Fillmore Street, Van Ness Avenue, Washington Street and a line mid-way between Green and Union Streets, and

WHEREAS, This district, because of its traditions and natural advantages, should reflect in its development the highest standards of city planning, architecture and consideration for the welfare of residents, and

WHEREAS, The proposed ordinance permits the perpetuation of obsolete standards of planning and housing, therefore

BE IT RESOLVED. That this Chapter of the American Institute of Architects recommends to the Board of Supervisors of San Francisco that adequate studies be authorized and financed to the end that an ordinance be prepared which will insure the best type of development in this important district and encourage the stabilization of property values therein.

By motion, it was instructed that a letter be sent to the Beaux Arts Galerie in commendation of an exhibit of architectural models which was being held there. Mr. Garren suggested that the exhibit committee be notified of the display and requested to inquire if it might be used by the Chapter for a subsequent showing.

With the closing of business, Mr. Perry introduced the guest speaker, Professor Howard Moise of the School of Architecture at the University of California. In his remarks, Mr. Perry told of the happy fellowship in the School under the leadership of the late Professor Howard; of the growth of the school from infancy to virile standing; of the regret which came with Mr. Howard's announced desire to cease teaching and, before he had taken this step, the stunning blow of his death. With the unanimous opinion of his associates that there could be no successor of Professor Howard, inquiry eventually led to the selection of Mr. Moise as one of the teaching staff of the school.

In stating his valuation of Mr. Howard's greatness, Professor Moise set aside any misunderstanding of his being a successor or other than one of the earnest group, now working diligently to perpetuate the high standard which Mr. Howard had established in the school.

Professor Moise chose to speak of various aspects of modern architecture. Re-calling prior changes of thought in this country as fore-runners of the present mode, the early stage of modern work was characterized by the vertical. Now, the marked trend is toward accentuating the horizontal. In this contrast, the aesthetic and practical points of view are extremely divergent.

Modern architecture was stated as not appeal-

ing to the public at large, due, maybe, to the prevalence of little houses in the historic styles. The man in the street is at heart sentimental. Forced to a stringent business life, he enjoys the contrasting appeal of patine and texture in his home.

Modern art was summarized as the representation of the machine age, wherein is exploited the use of materials. In the home, it will not find general sympathy until humanized. This may be expected when there has been brought into it a fusion of the old and the new with the human note prevailing.—J.H.M.

OREGON CHAPTER MAY MEETING

The Oregon Chapter, A.I.A., held a regular meeting following a luncheon at the Sovereign Hotel, Portland, Oregon, May 16. The following were present: Messrs. Crowell, Doty, Bean, Jacobberger, Legge, Parker, Knighton, Holford, Dundeleaf, Brookman, Aandahl, Church, Johnston, Roehr, Newbeury, Clausen, Forrest, Lawrence, De Young, Wallwork, Hemenway and Alfred C. Williams was a visitor.

The minutes of the previous regular meeting and those of the special meeting held March 31, were read and approved.

It was announced that Charles J. Connick would lecture on Stained Glass, in Room "A" of the library, May 25th.

President Crowell read a letter received from the Secretary of the A.I.A., in reference to remission of delinquent dues.

After the report of Treasurer Brookman as to the state of the Chapter finances, Mr. Parker moved that the suspension of Chapter dues be continued indefinitely; that an immediate assessment of $1.00 per member be made, followed by subsequent assessments as required to meet expenses. Seconded by Mr. Jaccobberger and carried.

Resolved, that in view of the immediate needs and opportunities of the architectural profession, the imminent prospect of important public works, and the urgent necessity of vigorous and sustained action by the Chapter, towards benefit to its united membership and also to the public, the following policies are hereby adopted, and shall be regularly followed until amended by other action:

1. Regular Chapter meetings shall be held every two weeks.
2. Meetings shall be held in private places suitable for free discussion.
3. Guests are to be present at special meetings only.
4. The presiding officer shall strictly enforce the rules of order.
5. At all regular meetings the minutes of the previous regular meeting shall be read.
6. Chapter activities in matters of public works shall be guided by appropriate committees, to be especially appointed if necessary, who shall submit written reports at each meeting and receive promptly from the meeting its approval, criticisms or further instructions.
7. The presiding officer is urged to control discussion towards the end that business before the meeting will be dispatched fairly, promptly and definitely; and whenever expedient for this purpose he shall at the outset place a time limit on debate, which may be extended by vote of the meeting.

The adoption of the resolution was moved by Mr. Parker, seconded by Mr. Lawrence, and carried.

Mr. Jacobberger moved that the executive committee ascertain from the R.F.C. if funds obtained from the Relief of Destitution Fund, Title I, R.F.C. Act as amended July 21, 1932, may legally be used by the Governor of Oregon as security for the local city-county scrip. The motion was seconded and carried.

Mr. Jacobberger moved that the Chapter go on record publicly, as approving the present site of the Skidmore fountain, and as opposed to a change of the site at the present time. The motion was seconded and carried.

Mr. Holford moved that the public works committee investigate the reported agitation for wooden school buildings, and the proposed development of public parks, the committee to report at the next meeting. The motion was seconded and carried.

It was moved by Mr. Holford and seconded by Mr. Hemenway, that the public information committee point out to public officials the difference between productive and unproductive work that is to be undertaken for the relief of unemployment. Carried.

It was regularly moved, seconded and carried that the entertainment committee look into the question of a Chapter picnic and golf tournament, and report at the next meeting.—L.D.H.

WASHINGTON STATE SOCIETY

Regular monthly meetings of the Washington State Society of Architects have been postponed until September, according to an announcement by John S. Hudson, of Seattle, president of the society. Several special meetings may be called during the summer. Mr. Hudson is keeping busy serving in an executive capacity with Seattle Mortgage Relief, Inc., 529 Dexter Horton Building, in addition to his regular duties as a member of the Seattle City Eminent Domain Commission.

TACOMA ARCHITECTS MEET

The Tacoma architects were hosts to Raymond J. Ashton, regional director for the A. I. A., on the afternoon of April 17. A meeting was held at the office of Heath, Gove and Bell, followed by a dinner at the Tacoma Hotel. Mr. Ashton was accompanied by Harlan Thomas of Seattle.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Building costs advanced approximately 15% the past month.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—
Common, $29 to $33 per 1000 laid, (according to class of work).
Face, $70 to $85 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.00 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.75 sq. ft.
Common, f. o. b. cars, $15.00 plus cartage.
Face, f.o.b. cars, $30 to $44 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 69.00 per M
4x12x12 in.	78.00 per M
6x12x12 in.	107.00 per M
8x12x12 in.	174.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—45c to 60c per sq. ft.

Terazzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor ..... 14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 40 cents; clay or shale, 80c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs. $75.00 per balcony, average.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 70c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 30c per square foot.
Obscure glass, 26c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $28.00 per M.

1 6 No. 3—Form Lumber	$19.00 per M
1x4 No. 1 flooring VG	46.00 per M
1x4 No. 2 flooring	43.00 per M
1x4 No. 3 flooring	38.00 per M
1x6 No. 2 flooring	44.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1x4 No. 2 flooring	$33.00 per M
1x4 No. 3 flooring	28.00 per M
No. 1 common run T. & G.	28.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle
Redwood, No. 2	.70 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$ 90.00 M ft.
1 1-16x2¼" T & G Maple	117.00 M ft.
⅞x3½ sq. edge Maple	110.00 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	14c ft.	12 ft.	11c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.90
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.10 per 100 ft.
Sash cord com. No. 8	1.25 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	2.10 per 100 ft.

Sash weights cast iron, $50.00 ton
Nails, $3.25 base.
Belgian nails, $2.75 base.

Millwork—
O. P. $75.00 per 1000. R. W., $85.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $4.75 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.75 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.75 each.
Dining room cases, $5.75 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $9.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work ..... 28c per yard
Three-coat work ..... 38c per yard
Cold Water Painting ..... 10c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (In steel kegs).

Per Lb.
1 ton lots, 100 lbs. net weight 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots..... 11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots..... 11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots..... 13c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch..... $ .85 lineal foot
8-inch..... 1.25 lineal foot
10-inch..... 1.40 lineal foot
12-inch..... 1.60 lineal foot

Plastering—Interior—

Yard
1 coat, brown mortar only, wood lath....$0.36
2 coats, lime mortar hard finish, wood lath ..... .45
2 coats, hard wall plaster, wood lath..... .50
3 coats, metal lath and plaster ..... .90
Keene cement on metal lath 1.10
Ceilings with ¾ hot roll channels metal lath ..... .65
Ceilings with ¾ hot roll channels metal lath plastered 1.30
Shingle partition ¾ channel lath 1 side .60
Single partition ¾ channel lath 2 sides 2 inches thick 2.00
4-inch double partition ¾ channel lath 2 sides 1.20
4-inch double partition ¾ channel lath 2 sides plastered 2.25

Plastering—Exterior—

Yard
2 coats cement finish, brick or concrete wall ..... $ .90
2 coats Atlas cement, brick or concrete wall 1.15
3 coats cement finish No. 18 gauge wire mesh 1.60
3 coats Medusa finish No. 18 gauge wire mesh 2.90
Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped)..... .17
2.5-lb. metal lath (galvanized)..... .20
3.4-lb. metal lath (dipped)..... .22
3.4-lb. metal lath (galvanized)..... .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.60 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $50.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $16.00 to $25.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$85 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $85 per ton cost of steel; average building, $85.

Steel Reinforcing—

$75.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Special Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 6 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

STATE BOARD MEETS

The State Board of Architectural Examiners and the State Association of California Architects will publish a pamphlet embodying architectural laws and regulations, made necessary by recent changes in earthquake ordinances.

The State Board held its annual meeting May 16-18 in San Francisco. The board changed the dates of its semi-annual examinations from January and July to December and June, the forthcoming examination to be held June 12, 13, 14, and 15.

A. M. Edelman, Los Angeles, was elected president of the board, succeeding Albert J. Evers, and C. J. Ryland was elected secretary-treasurer, succeeding Harold C. Chambers. Other board members present were, Warren C. Perry, Louis J. Gill, Harold E. Burket, and G. Stanley Wilson, A. J. Evers and Harold C. Chambers. This was the initial attendance of Harold E. Burket and G. Stanley Wilson, who were recently appointed by Governor Rolph, succeeding John C. Austin and John Parkinson.

The board held its business session on May 16. The meeting extended to May 17, at which time R. J. Reed, president, Henry D. Dewell, vice-president, H. M. Jones secretary, and other representatives of the Bureau of Registration of Civil Engineers met with the architects to discuss mutual problems and formulate co-operative plans for the coming year.

Col. Carlos W. Huntington, head of the department of professional and vocational standards, addressed the combined boards, urging co-operation in the interest of both professions.

Certificates were issued to the following holders of Provisional Certificates:

Donnell E. Jaekle, Carl Frederick Gromme, Theodore Gottfried Ruegg, Edward R. French, Jr., David Hull Horn, Lloyd Ashley Rasmussen, Arthur L. Herberger, Arthur Veryan Jory, Theodore C. Bernardi, Chas. N. Coseboom, W. Elbert Manhart, Mario Francis Corbett, Elmore G. Ernst, David B. Clark.

PRODUCERS COUNCIL MEETING

The June meeting of the Producers' Council Club was held at noon, Monday, June 5th in the California Room of the Commercial Club, San Francisco. Present were members of the Northern California Chapter A.I.A., and State Association of California Architects. The principal address was delivered by Clark E. Wayland, President of the Wayland Company, Ltd., acoustical engineers, whose subject was "Sound Advice." He referred to the modern trend in sound control and its relation to architectural acoustics, including sound transmission through structures.

INSTITUTE APPEAL FOR SUPPORT

Calling for national support from members of the American Institute of Architects, Ernest John Russell of St. Louis, the president, announces four measures adopted by the board of directors to meet a crisis in the affairs of the organization, which was founded seventy-six years ago.

Wide reduction in expenditures, remission of back dues conditional on full payment for 1933, renewed action to secure employment of private architects on government building projects, and omission of the 1933 convention were the steps voted by the board.

"It is a source of joy," says Mr. Russell, "to realize that the architects throughout the country are fighting men, with plenty of courage to carry on and with the determination to equip themselves more thoroughly so as to be ready to serve their communities and their clients.

"The board members epitomize this feeling to a marked degree. They met squarely the problems placed before them and reaffirmed the vitality of the American Institute of Architects which last year celebrated its seventy-fifth anniversary."

Drastic reductions in the budget for 1933 affected committee appropriations and Chapter visiting funds, Mr. Russell declares. It was necessary, he adds, to reduce again the salaries of the executive staff, which had been cut a year ago, and to discontinue after June 30 the operation of the Structural Service Department of the Institute.

With formal approval of the elimination of the 1933 convention, the board placed plans for the 1934 meeting in the hands of the executive committee. A report on the project will be made in November.

Officers of the Institute, Mr. Russell explains, will continue to serve until the close of the next convention under the revised status. The president, therefore, will be ineligible for re-election as he will have served the equivalent of two terms.

"The work of the Institute," Mr. Russell points out, "will continue without interruption."

Remission of back dues, he asserts, was voted by the board of directors in an effort to assist individual members of the Institute "who have loyally supported it but are unable temporarily to carry their full share of its financial burden." The board remitted 1931 and 1932 dues of members who are in arrears, provided that those who desired to avail themselves of the opportunity apply in writing and pay their 1933 dues in full.

Mr. Russell makes public a report by Edwin Bergstrom of Los Angeles, the treasurer, stating that members who pay current dues "will not only retain their full standing in the Institute but will

enable the Institute to function and to give service when such service is most needed."

"We must preserve the American Institute of Architects," Mr. Bergstrom urges. "We need it today more than ever before."

Employment of private architects for government work, a measure sponsored by the Institute, has won the approval of the United States Chamber of Commerce and many members of both houses of Congress, according to Mr. Russell. Introduction of such a bill, he continues, is contingent on action by President Roosevelt to consolidate government departments and place public works in the hands of a single agency.

The work of the standing and special committees of the Institute, Mr. Russell maintains, is carried on now with almost nominal appropriations, although the personal interest and support of more than 600 members is enlisted.

"The number of committees — thirty-seven — may seem large, but the profession of architecture has many ramifications," he went on.

"Included in this find are appropriations for the Committee on Public Works, the committees which maintain standards of practice, the Jury of Fellows, committees having to do with City and Regional Planning and Housing, the National Capital, the Schedule of Charges, State Societies, and many others."

Publication of "The Octagon," official organ of the Institute, will be continued under the revised schedule of expenditures since, in Mr. Russell's opinion, "it is a message each month from the Institute to the Chapters and the individual members."

"Its purpose," he elaborates, "is to coordinate our efforts, inform all of accomplishments and developments which they should know, and to foster and maintain the unity of the Institute."

Election of three new directors of the Board to replace members who retired on May 15 are announced by Mr. Russell. The new officials are as follows:

David J. Witmer of Los Angeles to succeed Frederick H. Meyer of San Francisco as director for the Sierra Nevada Division.

Ralph H. Cameron of San Antonio to succeed M. H. Furbringer of Memphis as director for the Gulf States Division.

William T. Warren of Birmingham, Ala., to succeed Franklin O. Adams of Tampa, Fla., as director for the South Atlantic Division.

Members who retain their posts are Albert L. Brockway of Syracuse, director for the New York Division; George Herbert Gray of New Haven, director for the New England Division; Frederick M. Mann of Minneapolis, director for the Central States Division; Herbert E. Hewitt of Peoria, director for the Great Lakes Division; James O. Betelle of Newark, N. J., director for the Middle Atlantic Division, and Raymond J. Ashton of Salt Lake City, director for the Western Mountain Division.

SHOULD HIT "JERRY BUILDERS"

Presaging a saving of approximately $125,000 annually for California contractors, the Senate has approved A.B. 780 providing for a 50 per cent cut in the annual registration fee of contractors from $10 to $5 for renewals.

The bill, as finally adopted, retains the present $200 exemption clause. The original bill, introduced in the assembly by Lawrence Cobb, Los Angeles, provided for a $50 exemption clause. This was raised to $100 in the lower house and was later raised to the present $200 mark by amendments adopted on the floor of the senate. The assembly has concurred in these amendments.

In addition to providing for a reduction in the renewal registration fee, the measure also provides for general tightening of the provisions of the state contractors' act.

The reduced fee, however, applies only to renewals by registered contractors, and, if approved by Governor Rolph as anticipated, the cut will be placed into effect with the issuance of licenses for the new fiscal year beginning July 1. Under the measure, the delinquent fee remains at $10 per year, while the fee for new licenses also remains unchanged at $10.00.

"The amended act," according to Registrar Huntington, who is also director of the department of professional and vocational standards in the governor's cabinet, "provides for more stringent regulation of the unscrupulous fly-by-night contractor and "jerry-builder," but in no way will interfere with the legitimate business operations of the honest and ethical contractor.

FIRST CEMENT FOR BRIDGE

The first barge load of Golden Gate cement for the Golden Gate Bridge, has been shipped from the Redwood City plant of Pacific Portland Cement Company for its destination on the Marin side where construction on the piers is under way. The barge is one of a fleet especially constructed for the purpose by Pacific Coast Aggregates, Inc., which company has the contract for furnishing the concrete for the bridge.

"This shipment marks the first time that bulk cement has been transported in barges on the Pacific Coast," said J. A. McCarthy, Vice President and General Manager of Pacific Portland Cement Company.

Approximately 450,000 barrels will be required before the bridge is finally completed. Pacific Bridge Company has the contract for the main piers, and Barrett & Hilp for the anchorages.

MORE CLARITY URGED IN BUILDING SPECIFICATIONS

by
W. J. DIXON, Architect

"PLANS and Specifications". That phrase covers a great deal to everyone connected with the building industry. Every architect should try to have his plans and specifications so clear that no questions might arise during the course of construction as to the "real" meaning. However, that is asking a great deal; in fact as a comparison it is the same as asking for a perfect building, which I am sure very few of us have had anything to do with. I think I speak for the architectural profession.

I am sure every architect occasionally has discovered some ambiguous or misleading paragraph in his specifications that has caused both the contractors and the architect some trouble. Let me, for one, bring out a paragraph that I, personally, had in my specifications; a paragraph which I eliminated as unnecessary. It is as follows:

"Omissions — The drawings and specifications are intended to cooperate. Anything shown on the drawings but not mentioned in the specifications, or vice versa, or anything not expressly set forth in either, but which is reasonably implied, shall be furnished as though specifically shown and mentioned in both without any extra charge. Should anything be omitted from the drawings necessary to the proper construction of the work herein described, it shall be the duty of the contractor to so notify the architect before signing the contract and in the event of the contractor failing to give such notice, he shall make good any damage or defect in his work caused thereby without extra charge."

Let me cite what happened. A school board not versed as to plans or specifications, insisted that the contractor should furnish dropcords and bulbs for each light outlet so indicated on the plans, assuming of course that with switches, plugs, etc., installed as per specifications, the job was not complete and interpreted that the drop-cords and bulbs could "be reasonably implied."

It was necessary for me to rule against the board as the specifications did not call for light fixtures. This was embarrassing to myself and to the contractor, as the board felt I should have insisted that he furnish them, as I was employed by the board. Personally, I believe that every architect should explain to a board that it is practically impossible to avoid occasional errors in drawing or to include every item in the specification. He should be big enough to allow any legitimate extra if he has missed it and not ask a contractor to cover for him.

Let me give you the other side of why a paragraph like the above was written.

Every architect has been troubled in the course of his practice with a few contractors who are forever looking for some chance to collect an extra.

In this day and age we are all striving for standardization and the elimination of unnecessary descriptions. That may well apply to specifications. I do not mean every set of specifications should be the same as others, but I do mean that every architect can go over his specifications and eliminate a great many needless paragraphs. Practically every one of us state directly in our specifications that the Standard Form of the American Institute of Architects covering the General Conditions of the contract apply to the work whether expressly attached to the specifications or not. We also include in our specifications those items from the General Conditions which we believe should be stressed. I am of the opinion that that is unnecessary. It only fills up a lot of paper and has a tendency to confuse the contractor. An architect might better spend his time explaining what he wants in the building.

Occasionally plans call for one thing, specifications for another and possibly a detail differs from either plans or specifications. We all sometimes find such errors in our work and I have generally ruled that specifications take preference over plans and details take preference over both.

Contractors are quite apt to omit bidding on alternates. In my opinion, a contractor who fails to bid on alternates should not protest if his bid is rejected. In almost every instance an owner has suggested the alternate so that if the cost needs cutting or the job is running less than an-

An address delivered at the annual meeting of the Associated Contractors of South Dakota.

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ticipated, he can be governed accordingly. Sometimes an unnecessary number of alternates are included. I would say an average of 5 to 10 alternates are ample and will give the owner all the flexibility required.

One point on which I wish to congratulate contractors in general, is their fine cooperation in closely following the specifications. We do not find in South Dakota the contractors trying to substitute cheaper materials. In most cases the specifications are made flexible so he can buy from any one or two or three concerns. In some cases, however, an architect has occasion to specify a certain article. Usually in his opinion it is the best obtainable. Sometimes it is no better than a competing article but the service which that company has available, in emergency, gives that article the preference; at other times an owner expresses a preference because a friend has recommended it to him. Do not condemn an architect for following his own desires or complying with the owner's wishes. Many times an architect is criticized for something over which he has no control. He is carrying out the owner's expressed desire.

In times of economic stress, such as we are now passing through, without enough work for all, I feel it is our duty to the contractors to keep the work as much as possible within the state. I believe the contractors should educate the public to the fact that it is unnecessary to go out of the state for bids on any project.

I believe that even though every architect would prefer to keep the work within the state, he must follow the owner's wishes. The architect can advise an owner that there is a large number of high-class firms capable of constructing the building to the owner's entire satisfaction but it is up to the contractors themselves to sell the public on their ability. It is gratifying to note that during the past few years the contractors are doing good work along that line, but they can do a great deal more. Members of the association, when they know of a job coming up either in their town or neighboring town should speak to the owners about the desirability of keeping the work in the state, and in most cases the result will be satisfactory. But do not ask an architect to do this for you as it is sometimes embarrassing.

The hardest job an architect confronts is that of selecting a list of bidders for any project—particularly public work. I very strongly favor a prequalification record of each contractor's financial standing and experience. It is almost an impossibility for an architect to give plans to everyone who asks for them. How much easier it would be if he could go to an owner with all the records of a firm, lay them down and pick the bidders. I

submit to each owner a list of from five to twenty bidders, who, considering the size and kind of the job, in my opinion, will give satisfactory results. The owner can then add any or several firms to my list if he desires to do so. In fact it is entirely up to an owner to select his bidders and for the architect to see that plans are then supplied.

NEW ARCHITECTS-ENGINEERS LAW

An amended law requiring registration of all architects, engineers and land surveyors has been enacted in Minnesota and is now in effect. Those actively engaged in practice of these professions must register before July 1, 1933. Those not registered may not use the titles of these professions after that date. Violation of the law is made a misdemeanor, according to the Improvement Bulletin.

The law provides that no architect, professional engineer or land surveyor shall be employed in responsible charge in the preparation of plans or specifications for any public work or improvement or shall supervise architectural, engineering or land surveying for any public work or improvement.

No person not registered shall practice as an architect, engineer or land surveyor or accept employment for compensation in responsible charge of plans or specifications unless he shall have registered.

An exemption permits contractors soliciting the erection of buildings to submit plans and specifications, when they are duly marked for the purpose intended, without indication that the designers are architects or engineers.

All public and private work of every character must be in charge of persons registered under this act except one and two-family dwellings, farm dwellings and owner-occupied buildings, and any work costing less than $7500.

No plat, map or drawing of any survey of subdivision of lands required to be filed with the registrar of deeds may be filed without bearing the certificate of registered land surveyor.

Those who are already in practice may be registered without examination upon payment of fee.

F. Stanley Piper, A.I.A., who, for nearly a quarter of a century has practiced at Bellingham, will open a branch office at Everett. He recently awarded contracts for remodeling a residence in Everett for Bennett Baldy.

MEDICO-DENTAL BUILDING

Charles E. Butner, architect, Cory Building, Fresno, has prepared plans for a two story frame and stucco medico-dental building to be erected on North Fulton Street, Fresno, for Dr. Roscoe F. Wallace, to cost $20,000.

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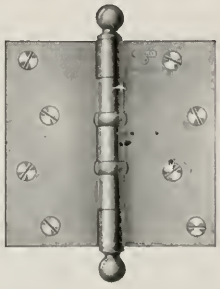

SAVE AMERICAN MONUMENTS

A national survey launching a movement for the preservation of historic American monuments is being conducted by the American Institute of Architects, according to Leicester B. Holland, chief of the Fine Arts Division of the Library of Congress and chairman of the Institute's Committee on the Preservation of Historic Buildings.

Assisted by architects in every section of the United States, Dr. Holland's committee is compiling a national list of buildings, either of architectural importance or of notable historic interest. This is to be subdivided into lists applying directly to the various states and cities.

Only buildings at least a century old are being considered for inclusion in the Atlantic seaboard tabulation, according to Dr. Holland. Likewise, no structure later than 1850 is to be included in the survey for any part of the country.

"In foreign nations, where architecture is a national concern," says Dr. Holland, "historic monuments are listed and cared for by the state. Here, where democracy leaves cultural affairs largely to public whim, it is proper for the architects organized in a national body to assume the leadership of popular interest in preserving important monuments of our past.

"The first step in any general campaign for preservation is obviously the investigation of what and where our historic buildings are, and why they should be subjects for public consideration. But except for a few favored localities where surveys already have been made, no lists of the buildings which might be properly classified as historic monuments are yet available."

It is the responsibility of the American Institute of Architects to conduct such a survey, Dr. Holland asserts, pointing out that with the Institute's large and widely distributed membership there "should be no great difficulty" in preparing a reasonably complete and adequate list of historic buildings worthy of preservation.

A ballot has been sent to each member of the Institute, with blanks for seven buildings. Information requested includes the name and type of building, its architect, the date of erection, original owner, present owner, features of architectural and historic interest, and location.

"As specific guidance," Dr. Holland explains, "members of the Institute have been asked primarily to consider the district, city, county, or Chapter area in which he resides, rather than that in which he has his office, so as to avoid excessive duplication of lists from large cities and neglect of country districts."

Returns are to be grouped first by Chapters and sent to the Chapter members of the committee for comparison and compilation of regional

lists. These regional surveys then will be returned to Washington for final combination by Dr. Holland and his group in a national list.

Dr. Holland deplored "the menacing tendency to do away with interesting old structures under the misguided notion that they detract from the appearance of new buildings." He also warned against the use of Colonial interiors as museum trophies, which he characterized as "a prostitution of national ideals."

The Institute has requested the museums of the country "to abstain from the devastating practice of purchasing or installing interiors or other portions of early building except those whose demolition is inevitable."

In the United States, it was pointed out, the Government does not foster the perpetuation of historic monuments as other countries do. In France the national Government has established a class of buildings known as historic monuments. Once a building is so designated by the Commission on Historic Monuments, the owners may not change it without consent of the Government. The Government in return makes itself responsible for keeping the building in reasonable repair.

SPRINKLERS DID THEIR WORK

A practical demonstration of the effectiveness of Grinnell automatic fire sprinklers was given recently in a fire which threatened to destroy the Acme Planing Mill in San Francisco. The fire swept all around the planing mill and, in fact, broke through several of the windows from the outside, but did no great amount of damage inside, due to the effectiveness of fifty-seven sprinklers. Under the severe exposure of heat, the sprinklers were automatically turned on keeping the fire well under control and saving the building from total loss.

TELLS ABOUT CONCRETE

Concrete contractors of the Bay District met at the Builders Exchange in San Francisco, Monday evening, June 5th, and heard an interesting talk by J. E. Jellick, District Engineer for the Portland Cement Association, outlining new markets for concrete improvement in residence and industrial property. The meeting was open for discussion and a number of technical questions were answered by experts in concrete design.

WATSONVILLE RESIDENCE

Plans are being prepared in the office of W. W. Wurster, architect, 260 California Street, San Francisco, for a rustic and brick veneer residence in Watsonville for Dr. E. A. Eiskamp. There will be seven rooms, three baths and double garage..

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MOST BEAUTIFUL BRIDGES

The three most beautiful bridges built during the past year in the United States have been named by the American Institute of Steel Construction. First award goes to the high level viaduct crossing the Hackensack and Passaic rivers in New Jersey; second, the French King bridge over the Connecticut River near Greenfield, Mass., and third, the Bryan bridge over the Niobrara River at Valentine, Neb. These bridges were judged by a committee of nationally known architects and engineers as the most beautiful monumental, the most beautiful bridge of medium size and the most beautiful small bridge of steel erected during 1932.

The monumental bridges, two of identical design, serve the highway viaduct over the Jersey meadows leading to the Holland tunnel. The structures are owned by the state of New Jersey, and designed under the direction of Jacob L. Bauer, state highway engineer. The McClintic-Marshall Corporation, Bethlehem, Pa., fabricated and erected the two bridges, while the approach viaducts were fabricated by the American Bridge Company, Pittsburgh, Pa., and the Phoenix Bridge Company, Phoenixville, Pa. The award in this class was limited to bridges costing in excess of a million dollars.

The French King bridge, judged the most beautiful of bridges costing between $250,000 and $1,000,000, was designed and built for the Commonwealth of Massachusetts, under the supervision of A. W. Dean, chief engineer, and G. E. Harkness, bridge engineer, Massachusetts Department of Public Works.

The Bryan bridge, judged the most beautiful of bridges costing less than $250,000, was built for the Nebraska Department of Public Works, J. G. Mason, bridge engineer, and Joseph Sorkin, designer.

TELLS OF BRIDGE MODELS

How engineering problems of the Golden Gate and San Francisco-Oakland bridges were solved in the laboratories of the University of California at Berkeley was described in a radio broadcast May 28, over KPO, San Francisco and KECA, Los Angeles.

These bridge models, engineers say, make it possible to obtain a measure of the complex stresses and strains produced by the weight of the material in the bridge, the load it will carry, and the winds and tides, in a fraction of the time that would be necessary to work the problem out mathematically.

WATER COLOR OF MT. MORAN

E. T. Osborne, of Seattle, has recently completed a very lovely water color of Mount Moran. The painting is on display in the Art Galleries, at 1009 Second Ave., Seattle.

LOW COST HOUSING IN EUROPE

While the subject of low-cost housing has come in for considerable attention on this side of the Atlantic, both from public and private agencies, development along these lines has not progressed here to the extent that it has in Europe, where our overseas friends have not been idle. America may well observe these foreign projects, with an eye to profiting by the experiences of others.

Housing experts in Europe are leading the way toward the optimum in economic planning and production and to effective architectural design adapted to the changing social order through considering the community house as the unit of production, rather than the individual dwelling. Several European nations, notably Germany, England, Holland, France, Switzerland, and Austria, have made important advances in supplying quality housing to the lower income groups.

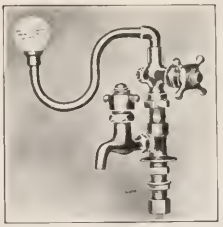
This has been accomplished largely through government financing, amounting in most cases to assistance, although in others it is actually government subsidy in which public funds are invested or loaned at less than cost. In all events, this has led to low interest rates, low amortizations and depreciation rates, elimination of wasteful speculation costs, and low administrative costs. Coupled with these are the economies achieved through large-scale planning and construction, to which end the best in architectural and technical thought has been applied.

Dwellings complying with the minimum standards Europeans have generally set for this kind of construction, can be rented at an annual rate of from 6% to 8% of the cost of the investment, the rent being reduced to 5% in cases where government subsidizing exists. These figures compare with the 12% to 15% required as the return on similar structures built speculatively in the United States.

European standards for low cost housing run somewhat as follows: One complete apartment for each family, to include kitchen, toilet, living room, and bedrooms. Running water, gas, or electricity are provided. One bedroom for the parents, one for boys, and one for girls is the rule, all bedrooms to have direct ventilation. All rooms to be light, and where possible, should have sun exposure. These dwellings are a part of a neighborhood unit, which also provides facilities for social life. Rents are not to exceed one-fifth of the annual income of the family occupying the quarters.

BERKELEY RESIDENCE

H. C. Brown, 6419 Mystic Avenue, Oakland, will erect a $7000 home on Spruce Street, from plans by Hardman & Russ, Whitecotton Building, Berkeley. The design of the house is English.



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TRADE LITERATURE

The Barnes-Corning Company, 30 Sterling Street, San Francisco, have been appointed sole agents and distributors for "Brownskin Building Paper," a product of the Angier Corporation of Framingham, Massachusetts. Illustrative material and specimens of this unique paper may be had by addressing the Barnes-Corning Company.

The Douglas Fir Plywood Manufacturers, Skinner Building, Seattle, Washington, announce the results of an architectural contest held by them recently in which were a group of camp cottage plans contributed by Frank Polito of Chicago, and James W. Beyvl of Cleveland, who were subsequently awarded first and second prizes respectively. Their plans have now been added by the Ladies' Home Journal to its series of "House Patterns." Douglas fir plywood was specified for a large portion of the interior finish of these cottages.

Steel and Tubes, Inc., a unit of the Republic Steel Company, Cleveland, have issued a small pocket size handbook on Electric Weld Tubing. This little book is a very handy reference guide and should prove valuable and interesting to the engineering and architectural professions, and to the welding shop foreman and his staff.

The Youngstown Pressed Steel Company, Warren, Ohio, recently put out an illustrative brochure on their latest product, a new type steel sink, under the trade name of "Veos Sinks," which presents to the market "The President Line." The brochure contains photographic illustrations and text.

The Portland Cement Association, 33 West Grand Avenue, Chicago, is issuing at the present time, two four-page folders A.I.A. 4-i-3, illustrating "Concrete Floors for Industrial Buildings," and "Concrete Floors — How to Build Them." These folders are nicely printed and well illustrated. The text matter is concise and informative.

NEW DISTRIBUTORS FOR SONNEBORN

Gunn, Carle & Company, a well known and long established San Francisco firm, have recently been appointed sole distributors for the Northern California territory, of L. Sonneborn Sons, Inc. The latter firm are the manufacturers of Lapidolith, a concrete floor hardener; Lignophol, a wood floor preservative; Sonomend, a concrete flooring patching material; Kaukit, a water-proofing plastic compound, and numerous other products. Gunn, Carle & Company maintain offices and warehouse at 20 Potrero Avenue, San Francisco.

FLOWER FESTIVAL COMPETITION

The ninth annual California Flower Festival is holding a state-wide architectural competition to conform to A. I. A. rules, to determine a perfect relationship between a house and its garden. The program will call for a one-eighth inch scale plot plan showing first floor plan and general garden layout, and a perspective .

Prizes will be awarded as follows: first, $100.00; second, $50.00; third, $25.00; fourth, $15.00.

The competition is open to architects, architectural draughtsmen and students. Copies of the complete program may be had by addressing Thos. D. Church, Landscape Architect, 402 Jackson Street, San Francisco. Entries should be in by July 3rd and competition plans must be submitted by August 21st.

NOW LOCATED IN PORTLAND

Alfred C. Williams, whose clever foreign sketches were published in THE ARCHITECT AND ENGINEER last year, is now located in Portland, Oregon, making his headquarters at the Multnomah Club. He is acting as "store fixture consultant" for a large department store. Another series of drawings by Mr. Williams will shortly appear in this magazine.

NEW SCREEN CATALOG

The Johnson Metal Products Company of Erie, Pennsylvania, has recently isued two exceptionally interesting and well arranged catalogs on screens. Johnson screens are illustrated by plate number with complete specification data. Late installations indicate the screens have been used successfully in many types of buildings, including post offices and other Federal structures, throughout the nation.

Walter R. Fox of the Security Products Company, 557 Market Street, San Francisco, has recently been appointed Pacific Coast representative.

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QUAKE THEORIES CONFIRMED

"Newly found secrets of earthquakes, expected to aid construction of earthquake-proof buildings," were reported to a gathering of experts at Washington, D. C., April 28, according to an Associated Press dispatch.

The "secrets" were translated from records of the motions of the ground during the California earthquake on March 10, made on the spot by special machines of the United States Coast and Geodetic Survey.

The records, made in the form of wavy lines on strips of paper, were interpreted by Frank Neumann of the Coast and Geodetic Survey before the American Geophysical Union and the Seismological Society of America. They revealed some previously unsuspected facts about earthquakes and confirmed some theories.

"Final results of the interpretation of the records will be published for the benefit of engineers and architects by a group of earthquake experts and Pacific Coast engineers," the dispatch stated.

"The records show, Neumann said, that there was a very strong up-and-down or vertical motion of the ground at Long Beach, during the March 10 earthquake as well as a sidewise or horizontal motion. There were really two distinct vertical motions, on a slow rise and fall of the ground, and the other a very rapid up-and-down tremor. It is quite likely, he explained, that the fast tremors may have crumbled the mortar between the bricks of buildings so that the walls were more easily shaken down by later shocks, a possibility that is important to engineers.

"The records also showed that engineers must strengthen buildings against the vertical motion of earthquakes, as well as the horizontal motion, which up to now had been considered more important. It was found the vertical motion was comparable in intensity to the horizontal.

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by

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"Tall buildings may be safer near the center of the quake than away from it, because earthquake waves away from the center move slower and so are more likely to be "in tune" with the comparatively slow sway of such a building."

SECOND BID FAVORED

The Builders' Exchange of Long Beach has adopted a resolution urging that public works contracts be let to the next to the low bid as furnishing an incentive to contractors to estimate jobs at their real value. The text of the resolution, as given out by E. A. Bradbury, manager of the Exchange, follows:

Whereas, Believing that the time has arrived for changes in building regulations in the state of California in order to provide a better class of construction adequate to meet and resist earthquake shocks and provide safety and protection to life and property, the Builders' Exchange of Long Beach advocates the adoption of every possible measure that will provide this protection, and

Whereas, Recent events demonstrate that forms of construction can be adopted that will provide a minimum of loss and damage with little additional costs in the use of proper forms and material in construction, and

Whereas, We not only favor and urge immediate action by changes in building codes and reg-

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ulations to meet this ever-present menace to life and property, but we urge changes in the present methods of awarding contracts that tend to demoralize the construction industry and foster cheap construction, and

Whereas, We believe that many of the evils existing in this industry and a higher standard of construction could be had by awarding contracts to the next to low bid, thereby giving an incentive to contractors to bid jobs at their actual value and worth, and

Whereas, We believe the adoption of such a change in awarding contracts would not only result in better construction, but would give the property owner value received for his money and to a large degree prevent bid-peddling and many other unethical practices now existing, and

Whereas, We believe it is within the province of state, county and municipal bodies to declare, in seeking competitive bids, that the next to low bid will be considered as the low responsible bid without the necessity of changing existing laws or ordinances to meet this requirement. Therefore, be it

Resolved, That we sponsor the adoption of such a change in the award of all contracts, both public and private, and that copies of these resolutions be furnished the press, the California State Builders' Exchange, the State Architects' Association, the Associated General Contractors, the Building Congress of the State Chamber of Commerce, the State Division of Architecture, the County Board of Supervisors, the State Board of Education, the American Society of Engineers and our local City Council and Board of Education.

STATE HOUSING LAW

Some graphic interpretations of every requirement of the new State Housing Act, will shortly be published by Ernest Irving Freese, architect, of Los Angeles.

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RECENT PATENTS IN ARCHITECTURE AND ENGINEERING

WEATHER-PROOFING STRUCTURE FOR DOORS. David H. Harnly of Chicago, Illinois. Patented Apr. 18, 1933

This invention relates in general to a weather-proofing structure, and more particularly to a weather-strip for effecting a positive closure of the juncture between a door and its frame or a similar structure, in order to more effectively prevent the passage of dust, rain, snow, and cold air through said juncture.

The invention comprises a continuous weather-strip along the sides and edges of a door frame and adapted to fit in a marginal groove in the rear face of the door. Means are provided for guiding the strip and transversely compressing it into the groove.

WINDOW CONSTRUCTION. Paul Willman of Merion, Pennsylvania. Patented April 18, 1933

Paul Willmann of Merion, Pennsylvania, has invented a new kind of casement window construction. The object of the invention is to combine many of the advantages of the double-hung and casement windows in an improved window construction. All the sash cords, weights, pulleys and the like are eliminated. The window construction comprises a plurality of sash sections which may be quickly removed from the window frame, leaving the opening in the frame unrestricted.

ROOF FLASHING. Lionel Vallas of Chicago, Illinois. Patented April 25, 1933

This invention relates to flashings for roofs on buildings at the juncture with parapet walls and chimneys; and has for its object the provision of a flashing adapt-

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ed to be secured in a crevice or joint in the wall or chimney and arranged to provide a waterproof relation with the roof proper.

The various flashing sheets from which the structure is composed are firmly clamped together and said reinforcing clamping element formed so as to provide a shoulder on the upper face of the element adapted to prevent seepage of water to the rear edge of said element and hence to the rear side of the flashing. A metallic wedge member of prearranged construction intended for insertion is provided in the crevice or joint in the wall or chimney whereby the flashing is firmly held in place; the wedge member being adapted to cooperate with the shoulder for effecting a binding relation between the flashing and the wall or chimney.

HYDRAULIC CEMENT. Edward W. Rice of Santa Cruz, California. Assignor to Santa Cruz Portland Cement Co., San Francisco, California. Patented May 2, 1933

The preferred proportions and method of making the cement are as follows:

To 70 per cent by weight of well burned Portland cement clinker is added about 24 per cent of shale and about 6 per cent of quicklime and the usual small amount of gypsum for the clinker content to control the set. The proportions will vary somewhat with the nature of the siliceous material used and are worked out for a Monterey shale running about 75 per cent silica. Various clays may be used as well as shale.

The clinker, shale, lime and gypsum are all ground together in a cement mill to an extremely fine condition, preferably so that about 95 per cent will pass a 200 mesh, though it may be reduced still further with advantage.

The resulting powder is a cement which may be used in the manner of regular Portland cement by gaging with water, but in

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actual tests against average Portland cement, both in neat form as well as in concrete, it shows a marked increase in early strength as well as at the end of the 28 day period covered by the tests.

The reason for the rapid development of great strength in the combination is thought due to the silica-lime reaction being promoted by the "seed crystals" of calcium silicate quickly supplied by the Portland cement reaction at once starting or promoting the calcium silicate reaction from the silica-lime content. Also to the heat generated by the setting of the Portland cement accelerating the silica-lime reaction.

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JULY 1933

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A glance at the following chapter headings will give some idea of the scope of this volume.

Contents by Chapters

1—Measurements of Building Work. 2—The Quantity System of Measuring. 3—Speed and How Affected by (1) Climate; (2) Hand vs. Machine Labor. 4—Excavation and Filling. 5—Piling and Underpinning. 6—Concrete Work. 7—Reinforced Concrete. 8—Stone, Gravel, Marble and Terra Cotta. 9—Brickwork. 10—Cement Stone. 11—Structural Iron and Steel. 12—Tile and Gypsum Fire-proofing. 13—Steel Sash and Steel Buildings. 14—Plaster. 15—Carpenter and Joiner Work. 16—Millwork. 17—Glass. 18—Roofing. 19—Sheet Metal Work. 20—Hardware. 21—Painting. 22—Plumbing and Gas Fitting. 23—Heating. 24—Electric and Conduit Work. 25—Tiling. 26—Asbestos Materials. 27—Dairy Barns. 28—Silos and Tanks. 29—Municipal Work. 30—Weights and Measures. Index.

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This latter requisite is most important. If the building industry is to benefit from this new economic set-up all groups within must stand together and insist that in drafting codes of fair competition not merely a few but all unfair practices shall be eliminated.

Trade associations throughout the country are expected to co-operate with the Federal Administration in getting the new act under way and it is up to every one in the construction industry to join the local and state associations in his group and thereby be in line for the benefits that are expected to develop from this epoch making movement.

Producers, manufacturers, dealers and everyone, directly or remotely, interested in the administration of the Industrial Recovery Act are warned that Trade Association racketeers are springing up to take advantage of unsuspecting and uninformed industrialists. These racketeers will demand fancy fees, claiming to have inside information in Washington. Do not be fooled. No one has any inside information. The safest thing to do is to affiliate with your trade association, as already suggested. Worth while advice, help and guidance can be obtained from the United States Chamber of Commerce, Washington, D. C., and its affiliated local Chambers of Commerce.

⁂ ⁂ ⁂

TIME is healing the wounds of the economic war that followed the great strife for physical supremacy. Each day that the shadow of the sun's rays marks the hours on the dial, or the hands of the clock complete their circuit, we are that much nearer the goal. Before the advent of science, as we know it, similar periods of economic stress were eras marked by the superstitions that found root in ignorance. As Time has marked the days, the months and years since prosperity ruled the land, so also has an enlightened people kept faith, maintained peace and stifled domestic uprisings as the forces of reason were marshaled to solve the problems of employment, production, credit and the general well being of the nation. Defects in business and industrial management are being corrected so that the resources that science has given us can be utilized on a more equitable basis than has heretofore been possible. Neither Time nor science knows or recognizes a master, for the one goes on and on, while the other develops, creates and teaches. Events of the last few months and plans for the future, says a writer in *Stone*, tend to prove that modern economics is merely a recognition of the supremacy of science and the need to mould all things to its dictates.

OLD AGE in buildings can be controlled, for a building is not like a man; it can be Modernized, worn out parts can be renewed, and even the exterior can be given a new coat of stucco or tile. Disobedience to the rules of health that often sever the cord of human life are synonomous to disregard of the laws of conservation in material things. All branches of the construction industry offer building owners the means to obey the laws of conservation through maintenance services and through remodeling and modernization to stay the hand of old age.—Ex.

⁂ ⁂ ⁂

THERE are skeptics who doubt the statements and figures from various sources that a distinct housing shortage exists. There are many vacant apartments and many vacant houses it is true, but these vacancies are due to causes that average observers fail to take into consideration. An annual outlay of $500 either for purchase or rent, is about all that the average family can apportion for living quarters and it is estimated that in this class there is a shortage of some 500,000 houses that come within this requirement. On a basis of $500 annually over the usual ten year period of building and loan financing, the demand appears to be for houses in the $5,000 class. It has been proven that a well designed, fire-proof and weather-proof house can be constructed within the $5,000 limit. In the higher priced house field, prospective owners are watching realty values, possibilities of inflation and other economic trends, but many are taking advantage of low material costs, low labor costs and depreciated land values with savings of several thousand dollars on houses in the $15,000 to $20,000 class. Prospective owners are "shopping" and displaying a remarkable degree of knowledge concerning materials, designs and comforts that come with better materials.

⁂ ⁂ ⁂

HERE is a warning to occupants of office and apartment buildings who wish to have their rents reduced — a warning to pay no commissions or fees to those who may intercede in their behalf:

"Maurice Spear, in New York," says a writer in *Buildings and Building Management*, "has acquired quite a reputation for dealing with human nature. The latest story has to do with handling lawyers who try to use their 'influence' to get rent reductions for clients. Usually, he says, they come into the office with the client and begin with the big-shot-around-town act — greeting Mr. Spear like a long-lost brother with a big Rotarian handshake and so on. Spear replies in kind and they develop the friendship theme for a few minutes, and the client-tenant is much impressed. Finally they get down to business, the lawyer doing the talking. Then Spear turns on the cold water. Addressing the attorney he begins: 'You know I like the way you fellows always develop the big-brother act. But just remember that I am sure I never saw or heard of you before. Now just you run back to the office and forget about this matter. I'll call on Mr. So-and-So (the client-tenant) in a few days and we'll work this out between ourselves'."

⁂ ⁂ ⁂

BUILDING material prices have taken a substantial jump the past 30 days which means that the manufacturer is endeavoring to get his business back to somewhere near the profit line. He still is quite a distance off from it, however. Some people think the industry should raise prices gradually and not encourage 20 and 25 per cent increases all at once. Architects feel that the first important thing is to sell the public into building. By so doing a demand for building materials is created and then will be time enough for price jumping. Too much of the latter right now might tend to frighten the prospective builder and temporarily check what appears to be a bonifide building revival.

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1933

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This Issue

Cover Picture ENTRANCE DETAIL, RESIDENCE OF MARCUS LOTHROP, BERKELEY, CALIFORNIA
Arthur F. Dudman, Architect

Frontispiece PATIO, RESIDENCE OF JOHN G. HATFIELD, BERKELEY, CALIFORNIA
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Next Month

Gordon L. Perske has written a semi-humorous and serious essay on one of the residence land marks in Eureka, California. He calls it "The Jig-Saw of the Eighties." Some interesting sketches illustrate the article.
Elmer Grey's charming series, "The Vicissitudes of a Young Architect," come to a close in this number.
"The Creative Interest in Parks," is the title of George D. Hall's third article from the office of Cook, Hall & Cornell, landscape architects. Mr Hall describes the development of our parks from the standpoint of his profession.

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Photo by Bridge

PATIO, RESIDENCE OF JOHN G. HATFIELD, BERKELEY
ARTHUR F. DUDMAN, ARCHITECT

THE
ARCHITECT
AND ENGINEER

JULY 1933
VOLUME 114
NUMBER ONE

I LIKE HOUSES—SOME OF 'EM!

by
ARTHUR F. DUDMAN
Architect

A RECENT advertisement informed me that "Trifles make perfection, but perfection is no trifle." Is there an architect who has not, at some time or other, felt on surveying a completed house — "If only 'they' had not insisted on that wall paper," or "Why did I let 'them' insist that the stairs be thus," or yet "Too bad I couldn't talk 'em out of that green trim."

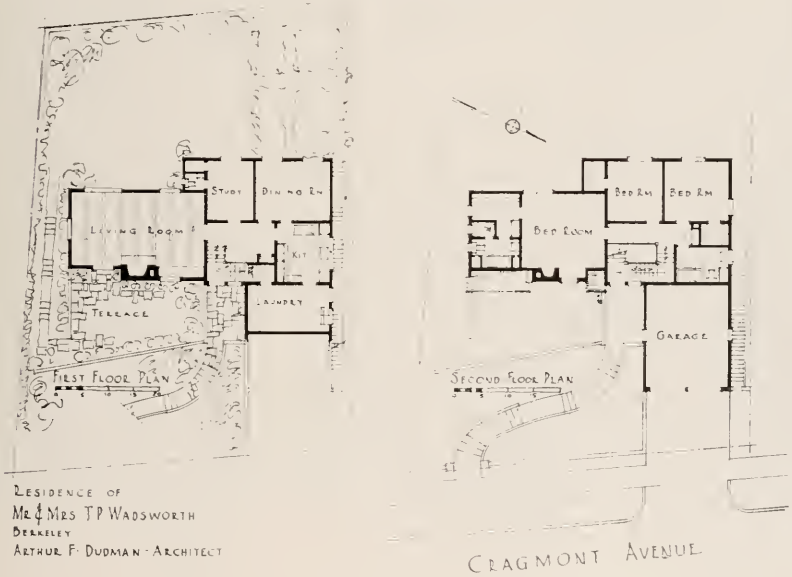
An architect faces each new commission for a house with a feeling of adventure. Here may be the job that will culminate in the ideal home. While occasionally he may discover a problem that, no matter how skillful he may be, no matter how cunningly he plan or scheme, seemingly defying all the resurces of his craft, there are more often, I hope, houses from his board that seem from their very conception to be conspiracies toward perfection. Not that he lowers these high standards in judging his own work, for I am sure that the architect is more inclined toward harsh criticism here than his clients, but rather he finds that these houses have more details of his fondest dreams than many others. That is, the orientation, exposure, relation of room to room, detail of eaves and sash, the entrance, the chimney, etc.—all are good but in addition he knows that the state of mutual understanding with his client—the meeting of the minds—

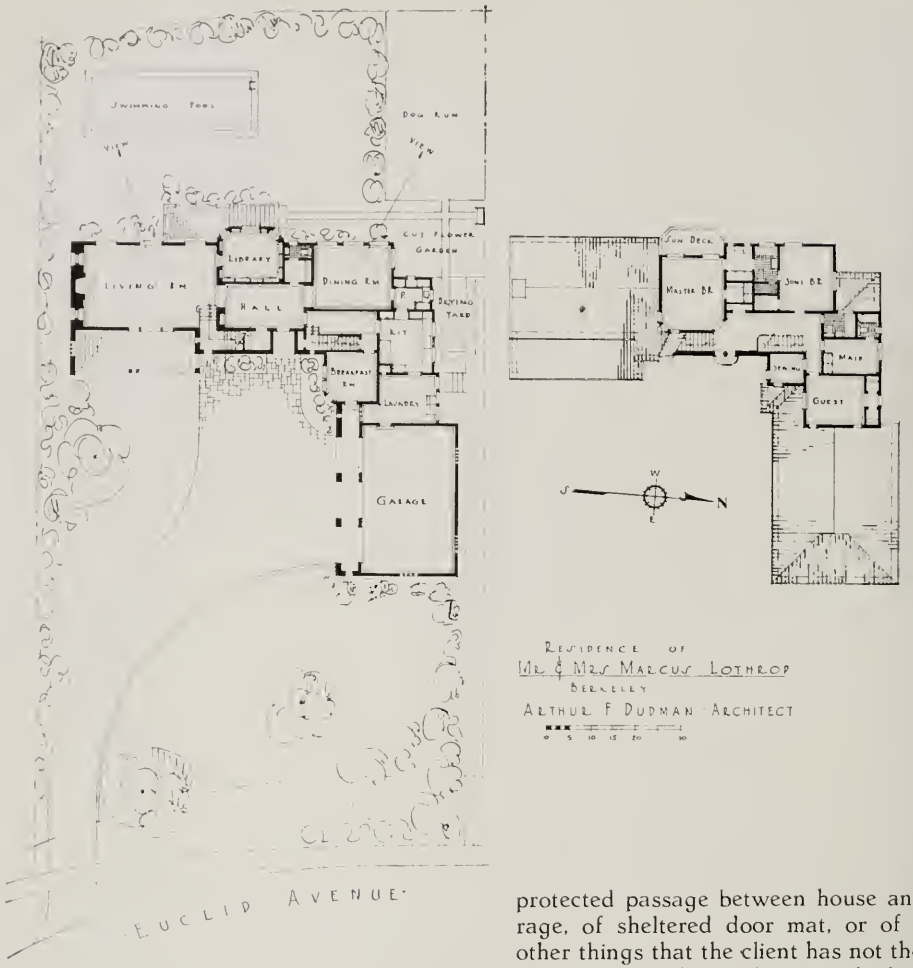
RESIDENCE OF JOHN G. HATFIELD, BERKELEY
Arthur F. Dudman, Architect

Photo by Bridge

RESIDENCE OF JOHN G. HATFIELD, BERKELEY
ARTHUR F. DUDMAN, ARCHITECT

SKETCH OF RESIDENCE FOR T. P. WADSWORTH, BERKELEY
Arthur F. Dudman, Architect





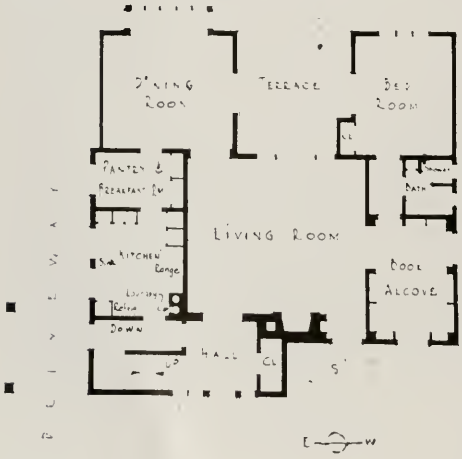
has endured so that building has been a pleasure to all; that there is an unmistakable air or livableness and homeyness about the place; that certain ideas of plan have been well worth the study necessary to incorporate them—ideas that have added not a little to the charm, ideas possibly of minimum waste hall, of short direct route from kitchen to front door, of cross ventilation, of economy in combination of flues and of second floor plumbing over kitchen, or of protected passage between house and garage, of sheltered door mat, or of many other things that the client has not thought of, nor will he (or she) unless the house is carelessly planned. Not that the clever architect hugs to his bosom the many things he has done of which the client is quite ignorant while concentrating on sticking doors or cracking plaster. No, he may have admired his own cleverness and ingenuity at one time but he soon finds that all of these items must be conquered and that continued enthusiasm of his client for the house and enduring friendship are important items in the conspiracy.

In designing the houses illustrated in this

ARCHITECT'S SKETCH, RESIDENCE FOR MARCUS LOTHROP, BERKELEY
Arthur F. Dudman, Architect

RESIDENCE OF MARCUS LOTHROP, BERKELEY
Arthur F. Dudman, Architect

RESIDENCE OF JAMES M. HUNT, CLAREMONT PINES, OAKLAND
Arthur F. Dudman, Architect



number of THE ARCHITECT AND ENGINEER, the writer has been fortunate in having the sympathetic co-operation of the owners with results eminently satisfactory to all concerned. We have strived to make these homes livable with the comfort and health of their occupants a dominant consideration.

* * *

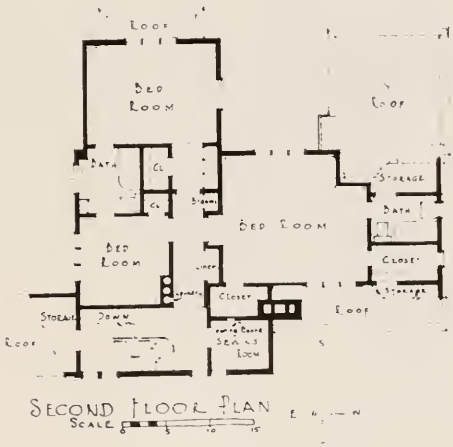
The John G. Hatfield residence in Berkeley is located on the rear of a fairly steep lot sloping to the southwest. The site offers a fine marine view and the house has the early sun even in winter months. The living room rafters and roof boards are ex-

RESIDENCE OF JAMES M. HUNT, CLAREMONT PINES, OAKLAND
Arthur F. Dudman, Architect

posed and stained a light warm brown. Plaster walls are painted buff. Tile roof overhang has the material effectively exposed from below.

The Robert E. Hatch home, on a level plot in Claremont Pines, is planted with several fine trees to add to the setting. The plan, like the others, seemed to work itself out, especially for protected out-of-door living. The living room beams are structural. The dining room ceiling panels are of plaster, bronzed and glazed, with stained oak mouldings.

The James M. Hunt residence is also on a fairly level lot in Claremont Pines but with different orientation, throwing the liv-



Harold L. Paige, Builder

RESIDENCE OF ROBERT E. HATCH, OAKLAND, CALIFORNIA
ARTHUR F. DUDMAN, ARCHITECT

ing garden to the rear in truly English seclusion. The interior is modified to harmonize with Mrs. Hunt's fine mahogany and presents a relief from the usual rough beam and stucco effect. The woodwork is enameled white with wallpaper a soft warm oat

rupted sweep of the Bay from Oakland to Richmond, so that view, sun, exposure, etc., were not only indicated but are there. The living room ceiling is exposed beam work, tied with steel rods. This construction is carried up the front stairway to the

Alladin Heating

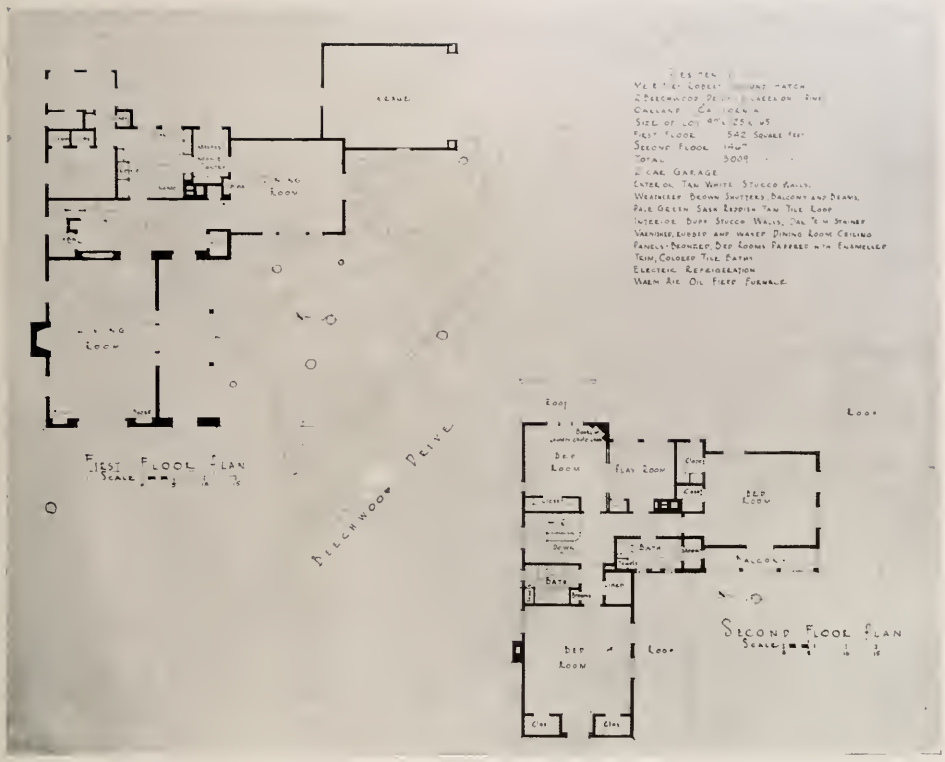
RESIDENCE OF ROBERT E. HATCH, OAKLAND, CALIFORNIA
Arthur F. Dudman, Architect

meal color. A marble fireplace of Napoleon Grand Melange is a soft warm gray with fine reddish vein.

The Marcus Lothrop residence afforded opportunity for the sprawly Spanish type with interesting expanses of roof tile and stucco wall. Situated on a shelf of the Berkeley hillside it commands an uninter-

upper hall and guest bedroom. The breakfast room is placed for morning sunlight, the dining room for sunset with windows arranged so that this may be enjoyed as the seasons change. The heating is maintained by a gas fired warm air recirculating system with a blower. Electric heaters in breakfast room, library, and baths serve to

RESIDENCE OF ROBERT E. HATCH, OAKLAND, CALIFORNIA
ARTHUR F. DUDMAN, ARCHITECT


Beechwood Drive
First Floor Plan
Second Floor Plan
Size of Lot 94' x 254.45'
First Floor 542 Square Feet
Second Floor 1467
Total 3009
2 Car Garage
Exterior Tan White Stucco Walls.
Weatherboard Brown Shutters, Balcony and Beams
Pale Green Sash Reddish Tan Tile Roof
Interior Buff Stucco Walls, Oak Trim Stained
Varnished, Beamed and Waxed Dining Room Ceiling
Panels Bronzed, Bed Rooms Papered with Enamelled
Trim, Colored Tile Bath
Electric Refrigeration
Warm Air Oil Fired Furnace

PLANS, RESIDENCE OF ROBERT E. HATCH, OAKLAND
ARTHUR F. DUDMAN, ARCHITECT

take the chill from these rooms when the furnace is not in operation. The lawn sprinklers are fed from the swimming pool through a booster pump.

The Oliver F. Hatch residence in Martinez is on a steep hillside lot with a splendid view over the town and bay and the Solano hills in the background. Here the primness and low roof of the Monterey type suits admirably the terrain and sunny exposures. Due to the many warm days and nights cross ventilation is highly desired as is the sheltered dining room and sitting porch.

The T. P. Wadsworth house is another solution to the steep lot problem. Here, however, attempt was made to take advantage of an admirable view and also to provide a living garden that will trap the sun but be protected from the western winds.

PATIO OF A SMALL HOUSE IN SPAIN

UNITY OF THE ARTS

by
RALPH ADAMS CRAM,
F. A. I. A.

THERE was a phrase, once very popular, that we created to justify to ourselves, if possible, our own validity and the validity of the civilization which we have created. That phrase was "rugged individualism." I am not concerned at this time with the results of this in the social, economic, and political field; rather do I want to propose the question whether this same rugged individualism has not entered measurably also into the domain of the arts to their great disadvantage and even disaster.

In the past, art was not a thing apart, the right of the artist alone. Beauty was, on the contrary, about the only "natural right" of man: a thing that everyone could count on as a part of his heritage. That had always been true from the very beginning. The beautiful thing was the right thing and the true thing, and the ugly was the false thing. Though we often refuse to acknowledge it, this holds not only in the case of the arts but also in society, in economics, in industrialism, in politics, in philosophy, in religion. The beautiful thing *is* the right thing.

In the Middle Ages the artist was not a specialist; he was rather an exponent, consciously or unconsciously, of a spiritual element that was dominant in society. He did not make it; he expressed it. He did what he did unconsciously because that was the way the thing ought to be done. The lines of demarcation in the arts were very vague and very fluid. The architect was a painter or a jeweler or perhaps he wrote poetry or drama. There were no definite dividing lines. The reason was a philosophic one that goes deep into the foundations of the Middle Ages and the failures of our own modern time. One of the great characteristics of the Middle Ages was the unquestioned philosophic adherence to "realism"; that is, the belief that the idea was the real thing. The idea came before the realization in time and space and matter and form. The idea was the only thing that had absolute validity. Toward the end of the Middle Ages and as one of the causes that brought about their ending, there came a change to "nominalism,"—a philosophy which held that the material thing, the visible thing, the tangible thing was the reality, and that the idea was created only by the operation of man's intellect and intelligence to explain or to justify this material thing. This goes exceedingly far. It penetrates deep into the very marrow of the Middle Ages. It lies at the heart of those beliefs which have exerted the greatest influence on our own modern time, from 1500 down to the present moment. Out of nominalism as a standard of judgment comes our materialistic civilization, which is rapidly nearing its end.

So long as the idea was the right thing there was substantial unity in life. The Middle Ages were a period of utmost unity—of conception, of idea, of ideal, of method, and actually of life. The cathedrals which to us typify those times were

From an address delivered at the annual dinner of the American Society of Landscape Architects.

only parts of a great whole, and these cathedrals are now nothing but the very shadows of what they once were,—blasted by bigotry, by the ignorance and hatred of later days, until their richness of unity has been disrupted and almost completely destroyed. Only in Spain or Italy can we gain some idea of that supreme unity characteristic of the Renaissance, as well as of Medievalism.

I propose the question, then, as to whether this rugged individualism that has made so complete a wreck socially and economically of our own period has not worked in much the same way in the field of art by seeking beauty in unbridled self-expression, and in objects rather than in ideas. Our modern life in all its aspects has broken up into specializations. We cannot go to a general practitioner any more. This holds in the arts as well as in medicine. I believe that nine artists out of ten look on themselves as God-inspired individuals determined to do their own work along their own lines, refusing to listen to advice either from client or from fellow practitioner. Advice from a client may indeed at times be something to avoid, but advice from any fellow artist in whatever art is always to be welcomed. I speak as an architect, but I am not putting architecture forward as the greatest of all the arts. Why discriminate between one art and another? I see no difference among them. Architecture is helpless without the cooperation of all the arts. I know of only two buildings that are pure architecture without the cooperation of one or more of the other arts. Those are the pyramids of Egypt and the Washington Monument. They are impressive, but they are geometrical forms without richness. They are not the highest form of architectural creation.

The greatest work of art which man has ever produced is a High Mass in a Gothic cathedral of the Fifteenth century, because there every art that man has ever devised or had revealed to him is brought together in one great unity. It combines not only architecture and sculpture and all the different arts dealing with lifeless materials, but in the end the whole is made to live and breathe by the operation of music. It is the very greatest and most powerful stimulus to the generation of high emotions in all those who come under its influence.

To that sense of unity and interdependence in the arts we must return, and to the realization that there are absolutely no rigid lines of demarcation between them, and no gradation of excellence among them.

The art of landscape architecture is one that is today comparatively new, though it goes back far in the centuries to a time when it was a real and a vital artistic expression of the best of that particular period. In that art the architect has an interest equal to your own, and for that reason the argument that I would make is that you scrutinize your consciousness and search your souls to see whether or no you are regarding your art as a special thing which is not related to the other arts, and particularly to the art of architecture. I do not say that you are, yet I have known cases where authorities who were about to build a great college or university, long before they determined who was to be the architect, went to landscape architects and said, "We have here 300 acres. We are going to build a great college. Better lay out and determine the entire scheme and after you have done so we will obtain our architect." And then again I have known instances where the architect was called in, and only by accident discovered who the landscape architect was. These are examples of the wrong way of going at it. The architect is no enemy of practitioners in the other arts; he is no enemy of the landscape architect. And the landscape architect is not an enemy of the architect. We must realize that those two functions go together. For the architect to determine his building, when the surroundings are such as submit themselves to landscape treatment, he must be put in touch with the man who is going to do that landscape work, and that means developing the project together. The architect has his own ideas of what he wants to build; he wants the cooperation of the sculptor and the

painter and the woodworker, of all the artists and craftsmen who work with him upon the building itself, but he must also have the cooperation and sympathy of those men who are to emphasize the quality of his building, to give it the setting that will harmonize with his idea and will result in a complete unity. We get nowhere if each one of us looks on himself as an expert along his own line only. At one time in fairly recent years that was so, but I have dealt with many kinds of artists and increasingly I find that their attitude is different. They want to cooperate. We do not want to destroy anyone's individuality. But back of that individuality is something that is bigger. That is the energizing spirit that is the essence of all art. It calls for the best, wherever found. It is not merely the expression of the individual. It is not the reaction of that individual to varying and evanescent stimuli. It is an interior sympathy, not necessarily a conscious one, with the best that we have at any time.

We architects work with dead material. You landscape architects work with the living thing. You have thus a privilege and an opportunity that in a sense is almost greater than ours. To make our buildings vital, to give them the greatest power of expression, you are bound to work in the closest harmony with us poor architects who have only dead sticks and stones to deal with. We cannot get along without you and you cannot get along without us. This will be increasingly true in the future.

Nothing but the best is acceptable. There must be no surrender to a temporary and evanescent condition. We must recognize the fact that while the arts change in style, it is merely a change in outward form of expression. Underneath, the fundamental principles are identical and everlasting. There is no difference between the principles of the time of my great patron saint, Imhotep, and the art of Greece or of Byzantium.

The only thing worthy to express through those principles, therefore, even if the forms themselves change, is *the best* of any time and place. The artist bears an enormous responsibility. He is to-day almost the only guardian of fundamental truths, of beauty, and of life. The artist still has within him the consciousness of reality, of the true thing, and he should realize that it is for him to defend it regardless of all considerations of profit or position.

If he will stand for that reality, the artist in the end will be the man who will have the most to do with bringing the present era to a close and bringing to a beginning another era, more in accord with those truths by which alone man's great accomplishments of former times have come to pass.

SHOPPING FOR BIDS AND BID PEDDLING

THE American Institute of Architects is asking its members to air their views on the evils of bid shopping and bid peddling. Several plans by which the profession and building industry may be rid of the evils have been advanced and they are being given consideration by the Institute's Committee on Joint Building Practice, William Stanley Parker of Boston, chairman. One of these plans is called "The Nashville", its author, W. F. Creighton, being chairman of the Building Contact Committee of the Associated General Contractors of America, and a man thoroughly conversant with building conditions throughout the country. His outline of the Nashville Plan follows:

To reach any proper solution of the so-called bid peddling evil, it should be realized that the seller, as well as the buyer, is responsible. To conclude that the general contractor, subcontractor, jobber, or manufacturer, is solely to blame; or that any single element of the building industry—including the architect—may correct this evil, is a mistake. It requires cooperative and determined action. It is a fundamental principle of business that the seller must enforce his terms of sale, but it has been proven, in the building industry, that he cannot do so as an individual or in groups, without the buyer's help. Both know that their business life depends on a profit, but they must be forced to a realization that neither may earn it at the expense of the other.

This principle is the basis of the Nashville plan. It is a modification of Article 6, of the Code of Bidding Practice, prepared by a joint committee of the American Institute of Architects, and the Associated General Contractors. One important clause is omitted; which is, to require the general contractor to furnish each subcontractor a bid blank, which would insure that the bids of each trade will be identical except the price. The plan is extremely simple, and does not necessitate any change in the customary procedure.

Briefly, the essential feature is that every general contractor must submit a sealed list of the names of subcontractors he has used, to some agency acceptable to both buyer and seller.

To avoid any legal complications, no general contractor is excluded, regardless of size, locality, color, etc. If he submit the list, and agrees to other simple terms of their bidding practice, he is given every consideration, but if he will not agree, he does not receive a bid from any member of the subcontractor's organization. If he should secure the contract, none of them will accept any work from him. He may prepare the estimate on any trade, and list his own name, but must be prepared to do the work with his forces, because the subcontractors are not allowed to take the work, without the consent of their organization.

Practically all the responsible subcontractors in the territory are members of the organization, and sales managers of many nationally used materials and specialties, encourage their local representatives to co-operate, so that it is extremely difficult, if not impossible, to finish a commercial building of any magnitude, without the help of these subcontractors.

An effort is being made to persuade material dealers to co-operate. If this is successful, it is reasonably certain that bid

peddling and price cutting will cease in this territory.

If the subcontractor cuts his price, or accepts work from a general contractor who does not subscribe to the plan, he is expelled from the organization, and the general contractors do not request future bids from him.

The plan has been in operation in the Nashville territory for more than a year. It is satisfactory to buyer and seller. With one or two exceptions, every general contractor has been forced to agree, and one or two subcontractors, who have "kicked over the traces" have seen their error, and have come back. It is reasonable to assume that if it has succeeded during the present period of keen competition, it will be more satisfactory when business improves.

The main result is that the general contractor must add a profit to his estimate, if he expects one, because he cannot earn a profit by trading and peddling his subbids. The subcontractor must quote his best price, because he will have no opportunity to reduce it. When the general bid is tendered, all trading is over, unless changes are made in the plans and specifications, and it is difficult to use changes as a subterfuge to peddle. It does not interfere with the existing relationship between individual subcontractors and general contractors. Since prices are not made public, a subcontractor is not bound to give every general contractor the same price. If he has learned from past experience that a general contractor co-operates with him in the execution of his work, pays him promptly, and is solvent, he may quote him a lower price than others. To prevent collusion between members of the trade, a joint committee is empowered to check prices which are excessive and has authority to require the trade involved to reduce the price to a proper figure, or permit the general contractor to take any steps he desires.

It is not thought proper, as is contemplated in other localities, to depend on the architect to correct the trouble. General contractors have learned that with a weak architect and a selfish owner—who profits thereby — that bid peddling and ruthless buying will be more severe if the architect and owner selects the subcontractor, than at present, and the subcontractor so selected, without the consent of the general contractor, would be very unsatisfactory.

It has been interesting to watch the workings of human nature under this plan. Many subcontractors make every effort to ascertain their competitor's price before the general bid is tendered, in order to bid lower, but since the reduction of a sub price, before the general bid is tendered, does not profit the general contractor, there is no reason for him to give one subcontractor's price to another. Some subcontractors have requested the general contractor to submit their names on each job, and agree to meet any price quoted by their competitors. This does not succeed, because the general contractor realizes that a high sub-price is of no help in getting his bid in line.

It has been said that the Nashville Plan would not succeed in larger cities, but it is the writer's belief, that if the buyer and seller are convinced that the present condition is the cause of many bankruptcies, and to some extent the decreased volume of construction, it would be extremely simple to effect organizations in any city of whatever size, to enforce it.

There is an additional reason for a determined effort to stop price cutting at this time. We may not expect an increase in building construction until the members of the industry and the public are convinced that building costs are stable. It may seem that there is no demand for construction, but the past has shown that when capital is convinced that prices have reached bottom, it seeks investment.

Bidding Practice of Nashville Contractors Association

Agreed to by Fifty-one General Contractors

The general contractor shall give the subcontractor the same consideration that he expects from the architect.

1. The subcontractor should submit bids

to general contractors, only when invited to do so.

2. All sub bids shall be in the hands of the general contractors the day before the general bids are to be opened.

3. All sub bids received on the day of the opening shall be returned unopened.

4. The general contractor shall at the same time he submits his bid to the architect or owner, submit a list of the subcontractors he proposes to use in the performance of his contract, to the Secretary of the Nashville Contractors Association who shall return, unopened, the lists submitted by the unsuccessful contractors, after the award of the general contract.

5. When the general contractor prepares his own estimates on subcontract work, he shall so indicate in the list of subcontractors.

6. Contractors should exercise every care not to expose bids submitted by subcontractors before or after the opening of bids, even if the general contractor was not successful. It is confidential information, and should be treated as such.

7. The general contractor and subcontractor should agree in advance on amount due subcontractor on each monthly estimate, and unless this is cut by the architect, subcontractors should receive said amount in accordance with his contract.

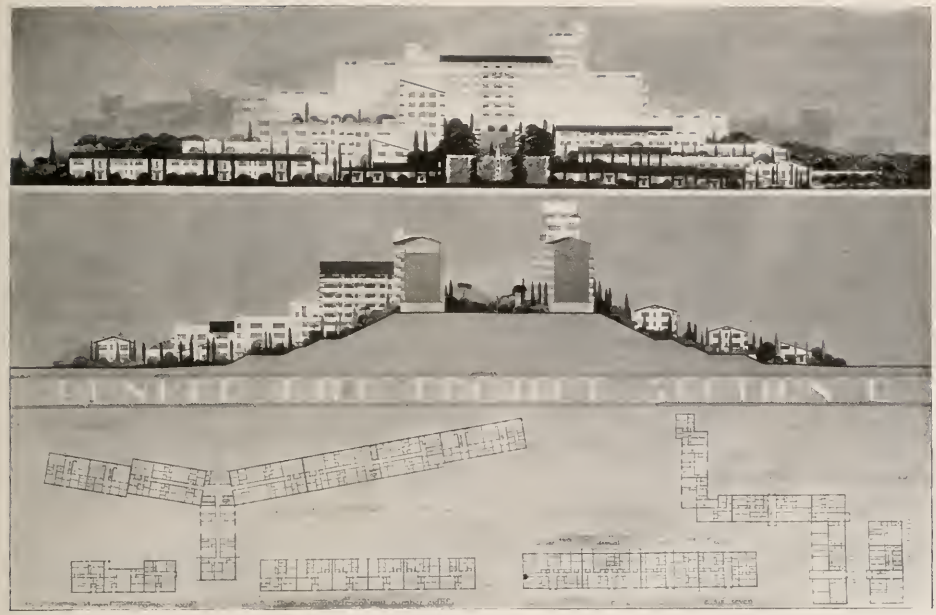
8. If subcontractors consider that they are being unfairly treated by general contractors, they should decline to figure further with such general contractor.

9. All subcontract proposals shall be valid and binding for a period of ten (10) days after the general bids have been opened. After this time subcontractor's bids may be withdrawn with notice.

This pertains to (2) *and* (3) *of the Agreement*

That all members of the Chapter (A. G. C.) adhere strictly to the time limit for receiving sub bids on work, interpreting twenty-four hours to mean the last day before the opening of the bids; that bids from out of town be accepted provided they were in the mail the day before, as shown by post office cancellation marks; provided that mailed bids shall not apply to local contractors and local material supply dealers; and that copies of this motion be mailed to each member of the Nashville Chapter, Associated General Contractors.

WELL HEAD IN PATIO OF SMALL HOUSE, PALMA DEL RIO



PROPOSED FIRST SECTION OF BUNKER HILL RESIDENTIAL PROJECT
Los Angeles College of Architecture, University of Southern California

UNIVERSITY STUDENTS PLAN MODEL HOME DISTRICT FOR LOS ANGELES

PLANS for making Bunker Hill, Los Angeles, a beautiful residential district within reach of downtown office workers, with apartments to house between 7,000 and 8,000 people, have been completed by two advanced students in architecture at the University of Southern California—Edward Carfagno and Oscar Warner, whose theses on this subject won the first two master's degrees conferred by the College of Architecture of the University.

Designed for potential residents employed in central-city districts who do not wish to commute to outlying sections, the project includes plans for approximately 100 apartment house buildings, with 35 apartments estimated to the building. Modern in construction, modern in design, planned to get maximum amount of sunlight, air, and outlook, the structures would include apartments to range from $30.00 to $100.00 a month, according to size. Mainly residential, and mostly multiple dwellings, the proposed development would include also a "civic-center" or plaza with a local shopping district, an elementary school and a junior high school, many attractive landscaped approaches, a tunnel under the Court Street hill (carried through to Sunset Boulevard), with lots of space devoted to parks and recreational spots.

Resulting from one-year's study and research regarding the value of the property,

Model of Bunker Hill Residential Project, Los Angeles (140 feet to inch) planned by Oscar Werner (right) and Edward Carfagno, College of Architecture, University of Southern California. Mr. Carfagno is pointing to a miniature of the Los Angeles City Hall. On extreme right is the Public Library with all structures in relative position and size.

value of the present buildings, general trends in the district for the past 25 years, consideration of numerous other similar projects in the country, and an accurate estimate of financing of the project, the two College of Architecture men have tried to show that the section will never be strictly "business property" as the city has developed in other directions.

"We have endeavored to show that the section should be used in its natural state, which offers interesting sites for apartments," states Mr. Werner. "The maximum height of Bunker Hill is 405 feet above sea level, or 125 feet above the city on an average—above noise, dust, and smoke, and west of the downtown district.

"We have estimated the cost of the property, plus the cost of construction, and balanced it against probable rent to show a profit for investors, and believe that the entire project (possible to construct in sections) could be completed in three years. The area covers approximately 37 city blocks, or 8,835,674 square feet. It is bounded by Fifth Street and the Los Angeles Public Library, at the South end; by Sunset Boulevard on the North; Figueroa Street on the West, and by City Hall, or Broadway, Hill, and Olive stepped, on the East."

Tennis courts, several fountains, planned to form a series of pools, and garages for the most part in the basement or the ground floors of the apartment houses, are additional features of the plan. Buildings are proposed to be from three to 12 stories, all fireproof and earthquake proof. The plan allows for First Street to be widened to 100 feet to conform to the present width of First Street to the Los Angeles Civic Center, and for Olive Street to be graded and cut through to Sunset to better traffic conditions. Pedestrian escalators are proposed at Second and Third Streets on Hill, and at Court Street on Broadway, for those who walk to work or use public vehicles.

VICISSITUDES OF A YOUNG ARCHITECT

by

ELMER GREY, F. A. I. A.

Ninth Installment of Personal Sketches Reminiscent of the Early Architectural Practice of the Author

ABOUT THE TIME of which I have been writing I made some interesting acquaintances in California, some of whom and their doings might be mentioned here.

Men of note are interesting, not because they are noted particularly, but often because they conduct their lives in individual ways, unfettered by custom, and so suggest to us ways by which we may live our own lives more naturally and effectively.

There was Bertram Goodhue for instance. He knew how to conform to custom and did so when it made life smoother and more enjoyable, yet in some respects no man was ever less bound by custom than he.

I don't remember where or when I first met him or how we happened to become well acquainted, but at the time the San Diego Exposition was projected I received a letter from him in which he spoke of the post of Directing Architect of that important undertaking.

DRAWING BY BERTRAM GOODHUE, ARCHITECT

"It is a position I want very much indeed," he wrote, "but I have just heard that it is not for me. I wasn't at first going to tell you what it is, but I think I will change my mind. They have a perfectly lovely problem and one with which . . . thought I was better fitted to deal than any other architect, thanks to my studies of and book upon Spanish Colonial architecture in Mexico.

"Needless to say I am bitterly disappointed at the turn affairs have taken and it is equally needless to ask you to regard

this information as approximately confidential and not to take any hand in it unless you think the circumstances warrant you in so doing. You ask me when I am coming to California and my answer is 'Please God, soon'. Had the San Diego affair materialized I suppose I could have been counted upon to appear very shortly, but now I really dont know".

Upon receipt of this letter I immediately telephoned my former partner, Mr. Hunt, and read him its contents. I knew that he was well acquainted with some influential men in San Diego and he and I both knew that if Goodhue didn't get the job another man would whom we considered much less capable. Mr. Hunt at once called San Diego on long distance and succeeded in getting in touch with the Chairman of the Board of Directors there which, at that very moment it so happened, was in session endeavoring to decide upon the choice of Directing Architect. Mr. Hunt's appeal at that psychological moment, telling how we both felt about the matter, turned the trick and Goodhue was appointed.

Some time after this occurrence, when I was architect for the Chemistry Building of the California Institute of Technology, its president asked me to suggest someone whom I thought would be the right man as consulting architect for the entire group of buildings they contemplated. I named Goodhue. I had also been commissioned to prepare preliminary plans for an Auditorium and Art Museum for the Institute and had just completed these latter studies when—through an unwritten law by which anyone donating money to the Institute has the right to name his or her architect—Goodhue was offered the position to supplant me as architect for these latter two buildings. Very much embarrassed he came to my office and said that he would refuse the work if I wanted him to. Of course that was absurd and I told him so. But nevertheless it made him feel under peculiar obligations toward me and probably accounted in part for some of his rare generosity to me later on. My floor plans for the Chemistry Building had been determined upon and I was making sketches for its exterior when they asked Goodhue to make alternative sketches for it. This he did; they preferred them to mine and they were adopted.

The result was that I continued as the architect of this important building although the design for its exterior had been made by Goodhue. Owing to this peculiar situation I told him that I thought by rights the full size details for the building should be made by him also, but that I was in no financial condition to pay him for them. To this he replied, "I will make your full size details and it wont cost you a cent!" Inasmuch as I was the means of securing him a fine job (that of consulting architect) and he was responsible (though unintentionally so) for my losing one, I accepted his offer. So, although the plans for the Chemistry Building were made in my office, and I personally supervised the construction of the building until its completion, its exterior design and details were made in his office in New York. The beautiful drawing he made me years afterward (reproduced herewith) was made in response to my request for a 'thumbnail sketch" as a souvenir of our friendship.

About this same time I made the acquaintance of several other interesting men. Sam Clover, the present editor of "Los Angeles Saturday Night", Dr. George Ellery Hale, the eminent astronomer, Bliss Carmen, the poet, and Julian Hawthorne, the writer, all were members of a party of which I was one who were invited by Dr. Hale to spend a week-end with him at his bungalow on the top of Mt. Wilson. They comprised a company of intellectuals, the meeting with whom all at one time on terms of such intimacy, constituted a rare treat. I remember Hawthorne as being particularly entertaining as he regaled us with stories and reminiscences around the open fire at night.

Only one feature of the trip threatened to mar its otherwise serene aspect. On the way down the others had preceded me and as I rounded a turn on the trail I suddenly, to my horror (?), came upon a scene which had all the aspect of being the finale

of a most serious and violent altercation. Clover was lying prone upon the trail. Hale was on top of him brandishing a vicious looking dirk, and Carmen stood by never even trying to interfere! Needless to say that was not *my* way of participating in such a serious situation! I rushed in at once of course and interfered! Brushing Carmen aside as though he were a mere wisp—he was over six feet tall but cannot deny it—(he passed away some years ago) I first took a snap shot as documentary evidence; then I threatened Hale with exposure if he did not immediately desist, which of course he did, and then I acted as a consummate peacemaker. Modesty alone prevents my telling of the further heroic part I played in this now historic episode. I would not mention it here if I did not feel that it is due the world to know that these brilliant and ordinarily sedate minds sometimes become involved in compromising situations the same as more humble folk. Also I would hesitate to mention it if I did not have the photograph to prove the truth of my statements.

I leave the reader to form his own opinion of the character of men who, celebrated and estimable though they may be otherwise, would allow themselves to become embroiled in such a bad-looking mix-up! Clover, of course, owes his life to me, but I doubt if he appreciates it. While Hale,—well, I've no doubt that the evidence which I hold against him and which he may have felt continually hung over his head, has been the cause of his going straight ever since!

Mr. Grey's concluding story of his early experiences in the practice of his profession, will appear in the August number.

ALONG THE WATERFRONT
Pencil Sketch by R. Bishop

STRIKING VIEW OF THE HALL OF SCIENCE, A CENTURY OF PROGRESS, CHICAGO, ILL.
PAUL PHILIPPE CRET, ARCHITECT

HOW TO INTERVIEW AN ARCHITECT

by
CLAIR W. DITCHY, A. I. A.

MUCH has been written concerning the architectural profession with the idea of popularizing it with the laity, and of course, just incidentally, popularizing the laity with the profession. By that I mean that the average architect (taking, say 1926 as the norm) would feel much more kindly disposed toward the rest of the world if it paid some attention (and a little money) to him now and then. As matters now stand, the average person (based on 1932 statistics) knows there is such a thing as an architect, but the idea of ever engaging one to do anything for him seldom enters his head.

After a very careful and thorough study of the problem, we have come to the conclusion that something must be done about it. We have also reached another conclusion and that is that the real trouble has never been recognized before and here, for the first time in the history of architecture, this basic difficulty will be exposed and fully treated.

We all realize of course the gravity of the situation, and what a mystifying and baffling situation it is—or was. The point I want to make is that in approaching a long-standing problem such as this, one must approach it with due circumspection, calmly, cautiously, and carefully considering all conditions and complexities which might color, concern, control or confuse its characteristics. It is one that because of inexcusable neglect has been allowed to assume amazing and alarming aspects, and attention to any of the multiferous ramifications of it would of course be worse than useless. One must strike at the core of our distress and if we succeed in destroying the crux of our dilemma, the horns of it will naturally drop off from sheer attrition. Do I make myself clear?

Now, having thoroughly investigated the various manifestations of misunderstanding and indifference and failure to cooperate with the architectural profession in making the world some better places to live in, we finally arrived at the basic reason for it all, and a very simple and basic reason it is. At this point, I should like to digress for just a moment.

It was one of those bright sunny days and I had been up late the night before puttering with my invention: almost everybody has an invention nowadays because inventions are going to cure the world of its headache. About ten o'clock of the morning, I heard someone enter the office, and being taken off my guard, (for no one disturbs an architect nowadays — at least not before noon), I hastened to assume my professional pose, which you will admit is a bit difficult coming out of a deep sleep. Well, there stood a beautiful young lady.

Whether to set me at ease, or to subtly appraise me of the fact that she had glimpsed me before I had as it were donned my professional armor, she smiled graciously, parting her lips slightly in the act. This of course confused me, and I stood helpless, speechless, waiting for her to say something.

After exchanging the customary courtesies and the time of day, which by the way was my first intimation that it was still morning and that I had the day ahead of me, she proceeded with the matter which

she had in mind. Her name was....., representing the ..... Co.; I refrain from revealing her identity and the nature of her occupation, not so much from a sense of chivalry as from a conviction that it would be totally irrelevant to the subject under discussion. I merely mention the incident because in the course of our very pleasant conversation, she suddenly brought me face to face with a frank recognition of the underlying cause of our unhappy situation. "Why," I asked, at a turn in the conversation which permitted my proposing the query without fear of being misinterpreted, "why do people shun architects?"

For several very justifiable reasons. I cannot quote her answer verbatim, but suffice it to say that when she left the office at five o'clock that night, I had a much broader view of the matter and a consuming desire to set about at once to correct the situation. I now feel adequately prepared to release my message to a suffering profession.

Why, indeed, do people shun architects? Have they as a class committed or subscribed to anything reprehensible which should ostracise them from an outraged society? Have they by word or deed offended or transgressed, presumed or affronted, piqued, nettled or abused? Can an accusing finger be justly raised against a profession, whose banner of self-sacrafice and devotion to the uncommon cause is unparalleled in the annals of history and whose integrity is unimpeachable? No, a thousand times no.

Well, enough of that you say and I agree with you. But why do people shun architects? I'm your friend and nevertheless I will tell you. People shun architects because they have never been told not to.

Scan the list of don'ts that have played such an important part in the development of your own manly character and physique. You were told not to play with matches or bad little boys or the ponies, etc. But were you ever by implication, allusion or device encouraged to associate with architects? How you ever got to be an architect, of course, I do not know.

And so it was that when the little girl told me that if she had known that I was an architect, she would not have dared to open my door, "Opened by mistake," said I laughing and she laughed too, although I could see she was still not quite sure of herself—or mebbe it was me. Then followed our epochal discussion in which I discovered that the real reason why people do not consult architects is because of the lack of instruction on the subject.

In every other of the amenities, or sidelines, one is by tradition, the daily newspapers, the radio, or etc., fully informed of the correct procedure. You know how to brush your teeth and see the dentist, how to call the police or fire department, how not to trump your partner's ace, how to address the mayor or the president, how to avoid accidents, colds, pistonslap or tire trouble. But the only thing on architecture is how to get our book of prize-winning designs free of charge.

From this brief introduction, you will have gathered the general trend of my idea. It will be fully covered in a series of manuals which will astutely appropriate the latest developments in psychological research and will create imperceptibly in the mind of the reader, an architect — urge. Once the reader has penetrated the preface, he will be overwhelmed with the necessity of finding something to build so that he may interview an architect, and as the manual progresses, it smoothes away all possible resistance by fully covering every detail of such an interview. The first of these manuals is now ready for the press. It is entitled "What A Young Woman of Say Twenty-five Ought To Know About Interviewing An Architect." Here are some random excerpts from it:

From the chapter on "Appearance,"

"If you are contemplating a cottage by the sea or on some inland lake, and are fond of boating, swimming and the like, this should be reflected in the jauntiness of your costume. Choose a bright color, leaning perhaps toward the pastel shades to suggest that there is quiet and dignity even in such a boisterous undertaking. The jacket may be of rabbit's wool with skirt of some material. A jabot plisse with frill-

ed cuffs may be effective but you know more about that than I do. Chamois gloves, chapeau crepe Suzette, wool stockings and suede walking shoes complete the ensemble.

"Bear in mind the artistic temperament of the architect and that mood plays an important part in his ability to interpret your problem. Avoid carmine nails, although if you are contemplating a cottage by the sea or on an inland lake, a coral shade will be appropriate. Sand lightly between coats."

From the chapter on "The Interview,"

"The interview is arranged either by telephone or card. If by telephone, it should be through a third party, who after contacting the architect, suggests that Miss or Mrs. X would appreciate the opportunity for consultation with Mr. Y regarding her contemplated building project. Sometimes a fourth party enters into the arrangements, this party being Mr. Y's secretary who reports that Mr. Y is in conference, and who sets the date and time for him.

"If a card is used the approved wording is:

Miss Wanda Bild
requests the pleasure of an
interview with
Mr. Lintel
to confer with him in his professional
capacity regarding her proposed manor.
333 Syncromesh Drive
Detroit
Telephone Chesterfield 2-4-25

(If the client is married, the telephone number may be omitted.)"

At the appointed hour, the client presents herself at the architect's office. From this point on the client is guided by an apothecary conversation which runs as follows:

"Architect: So good of you to come, Miss Bild.

Client: Oh it's perfectly adorable of you to say that, Mr. Lintel. I have been looking forward to our interview with great anticipation.

(Here may ensue a round of small talk dealing with current events, bridge losses, favorite authors, or what not. Weather and the depression are taboo. At the proper moment which will sooner or later present itself, the client seizes the thread of the conversation and opens her purse.)

C. I was a little uncertain, Mr. Lintel, regarding your retaining fee, so I have filled out the check, that is, everything except the amount, and if you will let me know the figure, we can dispense with this trivial detail at once.

(The architect probably has a set fee, but if you have made the most of your opportunities, this may be reflected in the concession he makes in your particular instance. But no matter what figure he may mention, etiquette requires that you register surprise at the modestness of the sum indicated.)

Now to proceed with the interview proper. Never say, "I want to build an eight room house" or "What I want is," etc. The proper introduction to the details is as follows:

C. "You know*, Mr. Lintel, I have always dreamed of having a home of my own just like I have dreamed of for years. Even when I was a little girl, etc."

Or (but not both. Choice of.)

"Of all the things, Mr. Lintel, which I have always wanted, would be (1) to have a lovely, darling home, (2) to do something with that back bedroom (3) to remodel the boathouse, etc."

This list, running into three figures, includes every major operation which an ambitious architect might conceivably undertake. Lack of space prevents the inclusion of further details, but we confidently predict that once these manuals are put in circulation, the vogue for architects will sweep the country and will far surpass the spectacular success of mah jong, badminton, jig-saw puzzles, etc. No architect can be without them. Order yours now. Write for liberal terms, trade in allowances on used D'Espouey, Letarouilly, etc. Agents wanted, just imagine. See our booth at the Architects' Exhibit.

*This is the only place where the expression "you know" is proper, and never put the accent on the first syllable. Of course he knows, silly.

FEDERAL GOVERNMENT WILL HELP FINANCE PUBLIC WORKS PROJECTS

THE California State Chamber of Commerce is preparing a complete program of public works needed in the various cities and counties of the state and for which funds are expected to be available from the National Industrial Recovery Act. Provisions of the Federal Act have been carefully studied but there are many questions at issue in determining the project most likely to be approved by the administrator which remain to be threshed out. Grants equal to 30 per cent of the cost of materials will be made on acceptable projects and the remaining 70 per cent will be advanced as a loan which must be secured in some way. Bonds voted by the people will be accepted as security, but what other security may be acceptable to the government is an open question.

The following detailed information is supplied in a bulletin issued by the U. S. Chamber of Commerce as a practical guide in co-operating with the Federal government's public works program.

The purpose of the public works program authorized in Title II of the National Industrial Recovery Act is to stimulate employment. The largest factor in the program is local public works. A main objective of the Public Works Administration will be to encourage a large number of small, medium-sized local projects which will put people to work right away near their homes, and which can be completed within a reasonable time. The program is put forward with a view to the need and utility of the projects and to the ability of the local communities, with the specified aid from the Federal Government, to finance them.

This presents an important opportunity to chambers of commerce for constructive service to their communities. While the other major parts of the public works program will be carried out in large measure in accordance with existing schedules, the rapid sifting out of worthy local projects on which work should be started at this time will depend very largely upon the initiative and impartial action of chambers of commerce and other community organizations.

The time element is important. The various parts of the proposed program must move forward together if the maximum volume of employment is to be provided and success is to result from this nation-wide effort to stimulate the business upturn by advancing needed and financially sound public works projects. It is desirable therefore that the chamber of commerce in each community through a properly qualified committee and in co-operation with the municipal government and other interested groups, should begin examination at once of the practical possibilities of its community's participation in this effort.

The purpose of this bulletin is to provide a brief analysis of the bill and of the major features of its administration which can serve as a practical guide for the community co-operation which has just been suggested.

Since determination of the suitability of proposed undertakings is one of the major problems of administering the law, it should be stated at the outset that certain general tests will be applied to all projects regardless of the class to which they belong. These tests are:

1. Is the project needed?
2. How many men will be put to work?
3. How soon will the work start?
4. What will it cost?

Projects will be selected from three major classes of public works and from cer-

tain specified semi-public works. These will be described under four separate headings, with suggestions in each case of action which chambers of commerce may want to take in the interest of their communities.

1. *Federal Government Public Works*

Includes: Public buildings, river and harbor improvements, flood control, conservation and development of natural resources, and practically all other of public construction by the Federal government.

Amount allocated: Approximately $900,000,000, of the total appropriated will be allocated to projects in this class.

Financed: Entire cost will be borne by Federal government.

Clearance of proposed projects: Through departments of Federal government.

Projects in this class will be selected from those already scheduled. The objective is to speed up construction which would eventually be undertaken in any case, utilizing to that end all existing agencies of the Federal government which have responsibility for construction work. The tests which will be applied are those previously outlined.

Most of these projects will be presented for the consideration of the Public Works Administration on the initiative of the departments of the Federal government. With respect to a Federal project of interest to your community, for example, flood control, you should communicate at once with the Federal agency having jurisdiction over this project.

2. *Federal Aid Grants to States for Highway Improvement*

Includes: Elimination of traffic hazards, such as grade crossings, through highways within municipalities without limitation on expenditure per mile, by-passes, and feeder roads off of 7% Federal Aid highway system.

Amount allocated: $400,000,000 is authorized for distribution among the states on the basis of population, area, and post road mileage.

Financed: Entire cost to be borne by Federal government; states not required to match the funds. Railway grade crossing elimination may be paid for by Federal government even up to total cost, with state acting as agency for Federal government in handling these grade eliminations.

Clearance of proposed projects: Through state highway departments and United States Bureau of Public Roads, Department of Agriculture.

Projects will be selected in accordance with plans for state highway improvements. Wide latitude, however, is given to elimination of traffic hazards on improved roads. States also in their discretion may allocate funds for local roads in counties and townships. The tests which will be applied are those previously outlined.

Projects in this class will be presented on the initiative of state highway departments. Suggestions should be taken up with your state highway department. Local support of state agencies in getting the program under way by making known the benefits which will accrue, will greatly facilitate its successful execution.

3. *Federal Grants and Loans to States, Cities, Counties and other Political Subdivisions for Needed Public Works*

Includes: Water supply and filtration plants, sewage disposal projects, street improvements, public buildings, and practically all other varieties of public construction by states, municipalities and other public bodies.

Amount allocated: Approximately $2,000,000,000 of the total appropriated, of which, some $500,000,000 will be used for grants and the remainder for loans.

Financed: Cost of a project up to 30% of the cost of materials and labor entering into it may be borne by the Federal government, the remainder of the cost to be financed by a reasonably secured loan from the Federal government.

Clearance of proposed projects: Through governors of the states, who will be assisted by district representatives of Public Works Administration.

What form Federal 30% grants to local public works will take has not yet been determined. They may take the form of remission of interests and amortization charges on the loan during the period of construction, and thereafter until the amount of the grant is exhausted. Effort

will be made to keep the interest rate and the rate of amortization on loans sufficiently moderate to make the financing attractive to municipalities. Loans will not be granted to cover expenditure already made on partially completed public works, but they may be made for the completion of such work.

Priority will be given to those projects, otherwise acceptable, which can be gotten under way with a minimum delay and which will afford a maximum of employment for the expenditure. It is important, to note, however, that while the purpose is to provide employment, the public works law does not contemplate the financing of relief work in the form of so-called work relief projects. Federal aid for relief to those in distress is provided in another way which is being administered through a separate agency. The Public Works Administration will be concerned with advancing sound public works which will be given to local labor, and it is expected that these regular public works projects will provide direct employment on the usual commercial basis, except as the law fixes maximum hours and requires payment or reasonable wages for the work on the project. In a word, these projects will be carried out as nearly as possible in accordance with normal accepted procedure. This means that the providing of secondary employment and the stimulation of business through the manufacturer and transportation of materials are very definitely a part of the objective of the public works program.

It is in respect to this type of projects that the greatest opportunity is presented to chambers of commerce to contribute to the success of the public works program. Impartial local judgment is indispensable to the sifting out of useful projects which should be recommended for construction.

Important Facts to be Considered

Communities will serve their own best interests as well as the purpose of the law if they will confine their requests to those projects for which there is a clearly demonstrated need, and which the community, in view of the financing assistance made available by the Federal government, can afford to undertake. This calls for a balanced judgment, based upon a careful analysis of all the pertinent facts, including the very important consideration of providing employment and relieving the city's budget of the costs of relief for which no tangible return is being obtained.

In recommending a project two sets of facts must be considered:

1. Facts regarding the project showing:
   - A. That it is needed and can be afforded.
   - B. What it will cost.
   - C. Percentage of cost that will go to salaries and wages and to materials.
   - D. Time it will take to get the work started after approval of project.
   - E. Time it will take to complete it.
   - F. Whether engineering and other planning work for the project has already been completed.

2. Facts regarding the municipality as a borrower showing:
   - A. Whether its budget is balanced or steps have been taken reasonably designed to insure such balance.
   - B. Amount of bonds outstanding.
   - C. Legal limit of bonded indebtedness.
   - D. Whether bonds have been authorized for the project and have been approved by a reputable bonding house.

Because providing employment is the objective of the law, special attention should be given to the percentage of total cost of a proposed project which will be spent on wages and salaries. In that connection the findings of a special committee of the American Society of Civil Engineers is of interest. After careful inquiry, this committee estimated that of the total cost of the average public works project, 80% was spent on wages and salaries, including in that item: wages for direct labor on the job, including salaries for engineering and architectural work required in planning and supervision; wages for secondary labor in

[Continued on Page 48]

The Graphic Side of a Great Architect's Accomplishments

THIS month's Portfolio of the late John Galen Howard's work is a continuation of the executed work of Howard and Cauldwell when they were at 10 and 12 East 23rd Street, New York City. The three interesting drawings of house and stable on the estate of A. D. Juilliard at Tuxedo Park, N. Y., a close up of the Juilliard residence and a detail of the entrance to the once famous Hotel Essex, comprise the current month's showing.

The first installment of Mr. Howard's work in California will be published in the August issue.

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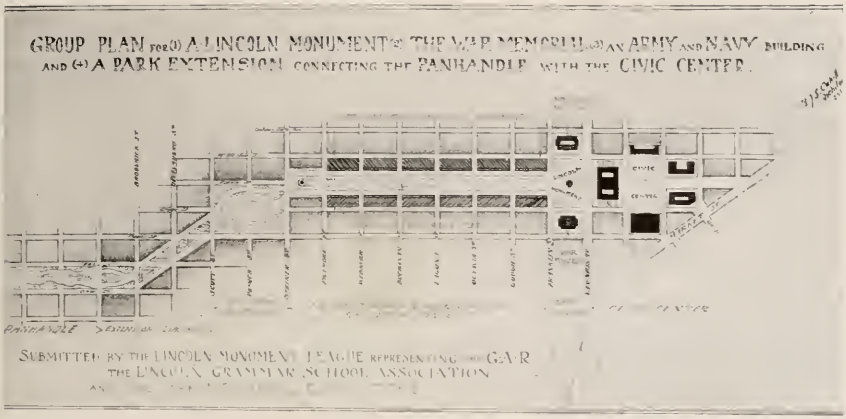
ELEVATION, HOUSE FOR A. D. JUILLIARD, TUXEDO PARK, N. Y.
Howard and Cauldwell, Architects

WEST ELEVATION, HOUSE FOR A. D. JUILLIARD, TUXEDO PARK, N. Y.
Howard and Cauldwell, Architects

SKETCH FOR STABLE, TUXEDO PARK, N. Y.
Howard and Cauldwell, Architects

HOUSE IN TUXEDO PARK, N. Y.
HOWARD AND CAULDWELL, ARCHITECTS

DETAIL OF ENTRANCE, HOTEL ESSEX,
PARK AVENUE, NEW YORK
HOWARD AND CAULDWELL, ARCHITECTS


GROUP PLAN FOR (1) A LINCOLN MONUMENT (2) THE WAR MEMORIAL (3) AN ARMY AND NAVY BUILDING
AND (4) A PARK EXTENSION CONNECTING THE PANHANDLE WITH THE CIVIC CENTER.
SUBMITTED BY THE LINCOLN MONUMENT LEAGUE REPRESENTING THE G.A.R.
THE LINCOLN GRAMMAR SCHOOL ASSOCIATION

Plan of 1920 suggesting War Memorial (Opera) and Army and Navy (Veterans) Building on the axis of the Civic Center plan of 1904 in two buildings instead of in one at the Panhandle Extension to Market Street, San Francisco.

A PARKWAY FROM THE SAN FRANCISCO CIVIC CENTER TO THE SEA

A Unemployment Relief Measure

by
B. J. S. CAHILL, Architect

AS the author of the First Plan called a "Civic Center" in 1899, and the first to apply that term to a second plan for San Francisco made in 1904 and adopted in 1912, I now offer some reasons why in this coming year 1934 the second part of the 1904 proposal should be carried out.

City planning falls into two distinct divisions: Beautification Improvements and Traffic Relief. The former follows the lines of the least, the latter the lines of greatest resistence. This plan belongs to the former group.

The district northwest of Market Street contains exactly so many blocks. It cannot be extended by reason of the water surrounding it. Its land values therefore must constantly increase at a greater ratio than if this region were extended indefinitely, in all directions as in Los Angeles.

While hills will always hold their own for residence purposes, some low lying areas, including the Fulton Street district, are undesirable, especially in rivalry with the expanding residence areas of Marin and Alameda Counties.

In view of this Trans-Bay migration, already a drain on San Francisco's population and now to increase by reasons of the two bridge schemes connecting San Francisco directly with these over-water suburbs, it becomes important for San Franciscans to establish artificially a new and attractive area to meet this competition.

The area in question is probably the most neglected and cheapest of any part of the Western Addition; therefore, by turning ten whole blocks of it to park purposes we not only deduct these from the limited number above referred to, but we bestow maximum increase of value on minimum priced land and so start an all-round raise in taxable values for several blocks each side of the great new avenue so cre-

ated. There is no device like a parkway to give residential attractiveness to flat land which forms a direct approach and is within walking distance to down town districts.

"Ashfulton Avenue" connects in one splendid tree lined park and civic center with Alamo Square: a formal avenue of approach to the city hall dome at one end and to a great monument at the other. It completes also a conflagration barrier from the Ferry Building to the Beach.

Thence the route, passing from classic straight lines to romantic curves, winds in a rock and fern lined cut through Alamo Square to a diagonal of two blocks, meeting the Panhandle extended one block; a glorious route of charming variety, like the movements of a symphony, from art at the opera to nature at the ocean!

This avenue, fourteen blocks of superb frontages, is best suited for rows of fireproof apartment houses, built under control about as follows:

(1) Each block to extend from business fronts on McAllister and Grove Streets to residential fronts on the great avenue; (2) ample garage space; (3) cross roads to run under every few blocks; (4) bridges for tenants and safety of children; (5) prescribed cornice lines; etc.

There could be no better time for the land purchase than the present, no safer investment for the future and never a more urgent occasion than now to relieve with wages so many out of work.

The plan for the whole lay-out should be sent to Washington as a worth-while field for Federal financing and relief of the unemployed, especially in view of its undoubted value as an investment which would eventually pay for itself.

FEDERAL GOVERNMENT WILL HELP FINANCE PUBLIC WORKS PROJECTS

[Concluded from Page 40]

the manufacture and transportation of the materials entering into the job; wages for secondary labor to produce the fuel used in the manufacture and transport of materials. It would not be difficult for an engineer to check the expenditure for wages and salaries as thus defined for any given project against this average figure.

4. *Federal Loans to Certain Semi-Public Works*

Includes: Low cost housing and slum clearance projects constructed under public regulation and control; bridges and other self-liquidating projects constructed by private corporations; railroad maintenance and equipment.

Amount allocated: No definite amount as yet, but part of the funds referred to above will be eligible for this purpose.

Financed: Federal government loans, reasonably secured for 60% to 90% of cost, depending on the character of the project, the balance to be provided by private capital.

Clearance of proposed projects: Low cost housing and slum clearance projects, through state and municipal housing commissions or boards where they exist, otherwise through Public Works Administrator; self-liquidating projects, through the Public Works Administration; railroad maintenance and equipment, through the Interstate Commerce Commission.

The authority given to the Reconstruction Finance Corporation to make loans to private corporations to aid in carrying out self-liquidating bridges, tunnels, docks, viaducts, waterworks, canals and market projects is transferred to the Public Works Administration. Financial assistance to the construction under public regulation and control of low cost housing and slum clearance is specifically authorized by the new law.

MISSION RAMBLING

by
H. P. WEBB
in Camera Craft

FRIEND wife and I go Mission rambling. We wander to other places, too, of course, but for things of human interest, of romance and history our California Missions supply the most.

MISSION ARCHES, SAN JUAN CAPISTRANO
Photo by Hopkins

We have long been lovers of those fine old reminders of the life of other days. In fact we believe that one must be somewhat lacking who can reside for a considerable length of time in California without becoming interested in the Missions. So, as our limited time and opportunity had afforded, we had visited the nearby Missions and had made not a few pictures of them. But now we were to see them all! We prepared ourselves by reading aloud several good books on the Missions which not only gave us much information, but added enthusiasm for our quest.

One may not in a short article give an account of all the Missions, nor a complete account of such a tour; but some of our experiences while wandering about, together with a few representative photographs, must suffice.

We found the cemeteries among the most interesting places and always worthy of a visit. Most unfortunately for us we had no knowledge of Spanish so a good deal was lost to us; but a meager knowledge of Latin helped, while not a few of the inscriptions were in English. Thus in

Left—
SAN JUAN CAPISTRANO

Right—
SUNLIT ARCHES,
MISSION SAN FERNANDO

the cemetery at Mission Dolores we read:

"All you that now are standing by,
As you are now so once was I.
As I am now so you will be,
Therefore prepare to follow me."

A DOORWAY, SAN GABRIEL MISSION

DOORWAY, MISSION SANTA BARBARA

In most of the Missions will be found many interesting relics of the past, about which cluster many interesting stories. Thus at Santa Inez an old yellow silk umbrella, said to have been brought over from Spain by one of the early padres, concerning which I had the following legend:

"The good padre was very fond of the umbrella and used it both as a sunshade and during rain. One day it was stolen by one of the neophytes. This hapless young Indian marched off to a distant Indian village and proudly displayed his spoil. But the natives, fearing the vengeance of the Spanish soldiers, would have none of him nor his umbrella, and they drove him away. Now indeed his plight was sad. He was afraid to go back to the Mission and he was an outcast among his own people. For weeks he wandered in the mountains, half starved and thoroughly miserable. At last a very repentant and much abashed young sinner returned to the Mission and restored the umbrella to the padre, at the same time falling to his knees and imploring forgiveness. The good padre was quite willing to forgive, but true to his faith, he demanded that the neophyte do penance, which consisted of his carrying the umbrella over the padre wherever he went for months to come. As the padre was a good walker the young Indian found in his aching arms and weary feet 'that the way of the transgressor is hard'."

The good father at Santa Inez very obligingly posed with the umbrella by the Mission columns and the record picture thus produced forms one of the interesting bits in friend wife's scrap book.

At the restored Sonoma Mission we were delighted to see the "Bear State Flag" carefully protected in a glass case. But we were disappointed to find that it was not the original flag. The original one, it seems, had become the property of a museum in San Francisco, where it was guarded with zealous care. The people of Sonoma at the time of an historic pageant asked permission to use the flag. They

Left—
THE MISSION BELL
AT SAN MIGUEL

Right—
BEAR STATE FLAG
AT SONOMA MISSION

were refused but were allowed to make an exact replica from the original. Shortly after this was done the great fire at San Francisco destroyed the original flag, leaving this, the only exact copy. The curator very obligingly took it out of its case, draped it on the wall of the corridor, and the resulting photograph is another of those I highly prize.

Brother Michael of Santa Barbara is a wit. Those who are fortunate enough to have him for a guide when they visit that Mission will receive along with much accurate information, many jests which will linger long in the memory. On a visit we made shortly after the beautiful building was so severely damaged by earthquake, the good Brother could not forget to joke, though the visitors were saddened by the havoc wrought. It happened that I was the largest man in the party, and looking directly at me the Brother said, "Now I'm going to show you the biggest dumbbell here." Of course I became very uncomfortable and my red face betrayed the fact that I knew that my poor slow mind was no match for that of the quick witted Mission rambling. We wander to other places, too, of course, but for things of human interest, of romance and history our California Missions supply the most.

We have long been lovers of those fine old reminders of the life of other days. In fact we believe that one must be somewhat lacking who can reside for a considerable length of time in California without becoming interested in the Missions. So, as our limited time and opportunity had afforded, we had visited the nearby Missions and had made not a few pictures of them. But now we were to see them all! We prepared ourselves by reading aloud several good books on the Missions which not only gave us much information, but added enthusiasm for our quest.

SAN GABRIEL MISSION, SAN GABRIEL, CALIFORNIA
From an Etching by Henry Chapman Ford

HUGE BOULEVARD PROJECT TO END THE DEPRESSION

Michael A. Mullen of Salinas, California, believes he has a plan that will solve our present economic troubles. Here is a copy of his letter to President Roosevelt:

Salinas, California
June 30, 1933

Mr. Franklin D. Roosevelt
Washington, D. C.

Dear Mr. President:

I am prompted by a sense of national duty to offer for your consideration a scheme by which to end this colossal depression, one to which I have given over twenty-five years study.

The past twenty-five years have been spent in the development of machinery and science. We now find ourselves in the machine age but the machinery has stopped and we are left with but one alternative; abandon the machine age (which is rapidly accruing) or put that machinery to work on a scheme which will prove that our machine age is but in its infancy.

Our cities of today have become an impediment to the advancement of science and as long as we admit that they have attained a standard of perfection, so long will the machine age and industry remain clogged.

My scheme is this: Let every city in the United States build an elevated boulevard outside of its city limits. This boulevard would become the standard for future city planning and building. It would become the fashionable shopping center of each city. It would be wide enough to facilitate the landing of aeroplanes and eventually shopping by aeroplane would become the vogue, thereby accelerating the aeroplane industry.

This boulevard in later years would create a high speed traffic artery through each city which will be an absolute necessity of the future. In time of war, if it ever became necessary to evacuate a city, it would probably have to be done in a matter of hours. It would also correct the mistake which is being made today of rerouting main highways outside the cities and with the complete co-operation of the city, state and Federal highway departments the scheme would be a decided success.

All future Federal buildings would be placed along the boulevards which would be intersected by cross streets nine hundred feet apart with the cross streets arched over, thereby eliminating accidents and traffic regulations. In the building of the boulevards architecture would be given revolutionary opportunity for advancement. We would be getting away from the old time system of designing a building and then finding a place to put it.

All buildings along the proposed boulevards would have to be of an approved design passed on by a city planning commission so that each would conform with the original plan of a completed boulevard. There would be but three buildings to each block, allowing two hundred feet frontage to each building and a fifty foot auto parking space on both sides and rear of each structure, leaving the entire frontage clear for aeroplane landing. There would be three subway passages to each block immediately under the road bed to provide pedestrian traffic crossing the boulevards; also the cross streets. Some of the buildings would have streets running through their entire length, with shops on each side, thus the small merchant would be afforded a location on the boulevard as well as the big corporations. Hotels would find the boulevards an ideal location because, as the project advanced, railway companies would offer rail facilities right to their door as would also the transcontinental air lines.

At first glance this project will give the impression of taking up too much territory but in reality it will give more accommodation to business and residence facilities per square mile than does our present system of city building because most of the buildings along the boulevards would be huge business and apartment structures combined. In later years, as the project advanced, special boulevards would be restricted to residences alone.

In launching such a huge project it may be necessary, at least in some of the larger cities, to start the project ten miles beyond the city limits.

If this scheme is adopted the progressive business man will be forced to take up a location on the boulevard or go out of date.

It is also a scheme where private capital would work hand in hand with the Federal government in financing the improvements.

It will not be a five year plan as put forward by Sovietism, Facisism or Hitlerism, but a fifty and a hundred year plan put forward by the good old United States of America.

Thanking you, I remain,

Yours very respectfully,

Michael A. Mullen
Salinas, Monterey Co., Calif.

« « « « With the Architects » » » »

OAKLAND FACTORY

Bliss and Fairweather, architects in the Balboa Building, San Francisco, are preparing working drawings for a $500,000 manufacturing plant in Elmhurst for the Standard Brands of California. Mr. Fairweather recently returned from the East where his firm was commissioned to do the work. There will be several buildings in the group, all with steel frame, brick walls and white enamel brick interiors, terra cotta tile roofs and steel sash throughout.

EDWIN L. SNYDER BUSY

One of the busiest offices in the San Francisco-Bay region is that of Edwin L. Snyder, architect, 2101 Addison Street, Berkeley. Plans have been completed or are in progress for residences in the East Bay section for Professor Paxson, Thomas D. Church, A. Nainzor, H. Henderson, and others. The houses will cost from $5,000 to $12,000 each. Fred Confer is associated with Mr. Snyder in some of the work.

APARTMENTS

C. O. Clausen, 746 46th Avenue, San Francisco, has prepared plans for an additional floor to the one-story store and apartment building at 26th Avenue and Lake Street, San Francisco, for George Luddecke. There will be two five-room apartments. The cost is estimated at $8,000.

COURT HOUSE ADDITION

Ernest J. Kump of Fresno is completing plans for a four-story reinforced concrete addition to the Tulare County Court House at Visalia, estimated to cost $88,000. Structural plans are being drawn by F. W. Kellberg, 320 Market Street, San Francisco.

OAKLAND BUILDING REMODEL

The Masonic Temple Association building at 13th and Washington Streets, Oakland, will be extensively remodeled and the store on the ground floor will be fitted up for an Eastern chain store. Improvements will cost between $20,000 and $30,000.

CLARENCE TANTAU BUSY

New work in the office of Clarence A. Tantau, Shreve Building, San Francisco, includes a Spanish style country house at Pebble Beach for J. D. Chapman, a guest house at the Paso Tiempo Golf Club near Santa Cruz, and a brick veneer residence in the Marina district, San Francisco, the latter to cost about $15,000.

BERKELEY STORE BUILDING

The contract has been awarded for the construction of a one-story reinforced concrete store building on Telegraph Avenue, near Bancroft Way, Berkeley, for Mrs. Anna Weeks. The plans were prepared by Stafford L. Jory, architect, 1370 Euclid Avenue, Berkeley.

SAN FRANCISCO RESIDENCE

Douglas D. Stone, 110 Sutter Street, San Francisco, has completed drawings for a $15,000 Spanish style residence to be built on the Marina Boulevard for Captain D. W. Thomsen of the Standard Oil Company of California.

FRENCH STYLE RESIDENCE

Plans are being completed by Fred F. Amandes, 1879 18th Avenue, San Francisco, for a two-story and basement frame and stucco and brick veneer French style residence to be built at Atherton, Santa Clara County, at an estimated cost of $12,000.

WAREHOUSE

Charles E. J. Rogers, architect, Phelan Building, San Francisco, has completed plans for a one-story reinforced concrete warehouse to be built on Stillman Street, near 4th, San Francisco, for an unnamed client.

BERKELEY SCIENCE BUILDING

The K. E. Parker Company has been awarded a contract to build an assembly room and apartment building at Durante Avenue and Bowdwich Street, Berkeley, for the Christian Science Church of the University of California. The architect is Henry H. Gutterson.

PERSONAL

Louis Svarz, architect, is now occupying quarters on the 13th floor of the Alaska Building, Seattle. He was formerly located in the 719 Second Avenue Building.

Albert M. Allen, treasurer of the Washington State Chapter, A. I. A., has taken office space with Fred B. Stephen in the Smith Tower, Seattle.

Lance E. Gowen, secretary of the Washington State Chapter, A. I. A., and who formerly occupied the suite with A. M. Allen, has moved to his summer home at Crystal Springs on Bainbridge Island.

Louis Baeder is now occupying an office at 1615 Smith Tower, Seattle. Mr. Baeder is preparing plans for several projects, including an hotel at Bremerton.

H. C. Chambers of Myron Hunt and H. C. Chambers, architects of Los Angeles, has been reappointed member of the California State Board of Architectural Examiners, Southern District.

Theodore R. Jacobs, Inc., architect, has moved his offices from 518 Ocean Center Building to 532 Ocean Center Building, Long Beach.

Earle R. Bobbe has opened an office at 907 Heartwell Building, Long Beach.

Kenneth S. Wing has opened a new office at 501 Termino Street, Long Beach.

SAN FRANCISCO ARCHITECTURAL CLUB

What Some of its Members are Doing

Bert Lund is with John Russell Pope and Otto Eggers.

Ted Fiera is working with his brother in a Chicago cafe.

Fritz Krueger is at Dartmouth University.

Rome Blas is cashier in an ice cream parlor in Barcelona, Spain.

Orlin Bullock is a small home specialist in Williamsburg, Va.

Skip Ruppel and Walt Krohn are working in a brewery.

Joe Scoma is working for Al Williams.

Herb Johnson is working for Architect Fred Slocombe in Oakland.

Marcel Coutier has joined the California Conservation Camp.

Arne Kartwold, winner of last year's Harvard Scholarship, has returned home.

Gonzales is in Mexico.

MAURICE C. COUCHOT

Maurice C. Couchot, structural engineer, died at his home in Alameda, June 29th, following a six weeks' illness.

A native of France, Mr. Couchot was educated in Paris and came to California as a young man. He had practiced in San Francisco for more than a quarter of a century. His structural designs were used on many important buildings erected after the fire.

Mr. Couchot was one of the early advocates of reinforced concrete construction. At one time he was associated with City Engineer M. M. O'Shaughnessy. Later he was associated with Kenneth MacDonald, architect, now of Los Angeles. At the time of his death he was senior member of the firm of Couchot and Rosenwald, Underwood Building, San Francisco. Some of the buildings for which Mr. Couchot made the structural plans are the Hotel Senator, Sacramento, the Mercantile Arcade Building in Los Angeles, the Palace of Fine Arts and the French Building, the latter two at the Panama-Pacific Exposition, San Francisco, in 1915.

NORTHERN CALIFORNIA CHAPTER

In place of the May meeting, the Northern California Chapter, A. I. A., met on the evening of June 13, at Marquard's Cafe, San Francisco. The meeting was held jointly with the State Association of California Architects and the Association of San Francisco Architects.

During the evening each organization held a business session.

The Chapter's business session was conducted by its President, John J. Donovan.

The education committee was requested to determine the value of the library of the late Ernest Coxhead for educational purposes and the price at which it might be purchased.

After adjournment those present visited the new plant of the Dairy Delivery Company to enjoy an inspection of it while in operation. This feature was made possible through the kindness of Will H. Toepke, the architect of the buildings.

OAKLAND BREWERY

Plans are being completed by O'Brien & Peugh, 333 Montgomery Street, San Francisco, for a $275,000 brewery to be built at 18th and Peralta Streets, Oakland, for the Samarkand Brewery Company.

UNIVERSITY EXTENSION CLASSES

The University of California Extension Division which last year provided evening and day classes in a wide variety of subjects for more than 30,000 people, has announced that more than 250 new classes of instruction will be started in the Bay Region during the months of August and September.

"There is no requirement for admission to a class other than the ability to pursue the work with profit," states Professor Leon J. Richardson, Director of Extension.

A new schedule of classes will be available for distribution in August and may be obtained by communicating with any one of the following offices: 540 Powell Street, San Francisco; 1730 Franklin Street, Oakland, and 301 California Hall, Berkeley.

Among the new classes starting at 540 Powell Street, San Francisco, of possible interest to ARCHITECT AND ENGINEER readers are the following:

Course	*Instructor*	*Time*	*Begins*
Advertising	H. Hilscher	Tues. 7:00 P. M.	Sept. 12
Salesmanship	H. M. Crawford	Mon. 7:00 P. M.	Sept. 18
Real Estate Law & Practice	J. A. Grennan, Jr.	Wed. 7:00 P. M.	Sept. 13
Legal Aspects of Fire Insurance	R. P. Wisecarver	Thurs. 6:30 P. M.	Sept. 14
Current Events in Finance	M. H. Epstein	Thurs. 11:00 A. M.	Sept. 14
Current Events	Dr. P. W. Buck	Tues. 2:00 P. M.	Sept. 19
Current Events	Dr. P. W. Buck	Tues. 7:00 P. M.	Sept. 19
Interior Decoration	H. J. Powers	Thurs. 6:30 P. M.	Sept. 14
Interior Decoration	H. J. Powers	Thurs. 8:00 P. M.	Sept. 14
Modern Interior Decoration	E. A. Hunt	Fri. 7:30 P. M.	Sept. 22
Engineering—Strength of Materials	N. B. Green	Tues. 7:00 P. M.	Sept. 12
Contemporary Art & Artists	H. A. Wolf	Wed. 8:00 P. M.	Sept. 13

LOS ANGELES BUILDING PROGRAM

William Davidson, Los Angeles County mechanical engineer, Hall of Records, has plans in various stages of progress for county building projects as proposed by the supervisors, to be financed through the $3,300,000. Public Works-Industry Recovery Bill signed by President Roosevelt on July 16th. The projects follow:

Chapel for Rancho Los Amigos	$ 50,000
Reconstruction of ward building at Rancho Los Amigos	40,000
Reconstruction of Old Women's Ward at Rancho Los Amigos	3,000
Reconstruction bath and ward building at Rancho Los Amigos	4,000
Commisary building at Rancho Los Amigos	30,000
Pedestrian tunnel across Imperial Highway at Rancho Los Amigos	12,000
General ward building at Rancho Los Amigos	60,000
Infirmary units and arcade at Rancho Los Amigos	300,000
Men employees building at Olive View	30,500
Auditorium and library, Olive View	55,000
Rest Home group, Olive View	200,000
Laboratory and pharmacy, Olive View	45,000
Ward for girls, Olive View	32,000
Two wards for boys and therapy building, Olive View	72,000
Home for night nurses, Olive View	48,000
Residence for executive superintendent at General Hospital	13,000
Home for nurses at General Hospital	365,000
Power house addition, General Hospital	20,000
Contagion building at General Hospital	42,400
Dormitory for boys, Juvenile Hall	70,000
New service building at Juvenile Hall	123,000
New County Court House	12,000,000
Mechanical and engineering building in Civic Center	1,250,000
Stores and warehouse addition	70,000
Morgue building	150,000
Health department building	150,000
Museum building at Exposition Park	1,725,000
Museum forecourt, Exposition Park	275,000
Granite facing on museum at Exposition Park	750,000

ARCHITECTURAL EXHIBITION

The annual exhibition of work by Southern California architects, opened in the Architects Building, Los Angeles, July 1 and will continue for two weeks.

Over seventy-five architects have photographs and sketches on display.

A formal preview and reception in honor of the architects and their friends was held June 30. The reception committee included Robert Orr, president of the State Association of California Architects; Gordon B. Kaufman, president of the Southern California Chapter of the American Institute of Architects; William Simpson, president of the Los Angeles Chamber of Commerce; John C. Austin, Director of the Chamber of Commerce, and Lynn Atkinson, president of the Associated General Contractors.

AWARDED FELLOWSHIP

For his design of a group of exposition buildings atop the Palisades of the Hudson River, Hyman Roche, of 2798 Webb Avenue, New York, will receive the F. August Schermerhorn Fellowship of the Columbia School of Architecture. The award was announced by Dean William A. Boring.

Under the terms of the fellowship, awarded only once every three years and worth approximately $1,875, Mr. Roche will study and travel in Europe for a year.

An honorary award for second place went to Daniel Chadwick, a senior, of 144-07 Ninety-seventh Avenue, Jamaica, L. I. Max Roche of the class of '31, a brother of the winner, took third place.

NEW SISALKRAFT PRODUCT

The Sisalkraft Company of Chicago announces a new product in its line of building papers. It is a sheet of Sisalkraft faced with electro-deposit copper; one ounce per square foot. For the present "Copper Armored Sisalkraft" will be marketed in ten inch width rolls for flashing door and window openings. When backed by this product, with its tough reinforcing of pressed sisal fibers, it offers many advantages for building construction. Additional information may be obtained from this firm direct or from their San Francisco office at 55 New Montgomery Street.

ECONOMY IN STEEL FLOORS

By Dr. J. H. Young

SINCE the eighties, when the successful development of structural steel for use in the erection of tall buildings brought forth the American skyscraper, steel has always played a prominent part in the development of the economic and social aspects of our civilization. The skyscraper was the answer to a fast-growing need for vertical, rather than horizontal expansion of industry, due to the demand for large areas of business space in certain localities. The changes wrought by the entering of America into the "skyscraper age" are too well-known to detail.

Recently, designers have begun to cast off the yoke of conventional practice, to some extent. They are discovering that the use of certain materials is not governed by immutable laws. It is fairly certain that building walls in the future will be built as curtains, instead of walls, (at least in the case of multi-story buildings, in which the wall carries no weight but the wind load). There is no need for constructing such walls of weighty materials, other than reasons of tradition and habit.

We believe that the future will see a general use of floors of steel—and that the present interest in steel floors is the precursor of vital changes in our economic and domestic life, (since building and housing practice will be greatly affected by a general adoption of steel floors).

The floor, unlike the wall of a building, *is* a load-carrying member, yet at present (where old-fashioned masonry-type floors are installed) it represents a very large portion of the dead weight of the building. It is here that the use of steel seems to be particularly desirable, due to its strength, light weight and economy.

When the production and merchandising difficulties have been ironed out for the various companies planning now to sell standardized houses to the public (at a not too far-distant date), steel will be found to be the chief material of construction—and steel floors will certainly be a part of every house.

The beam steel floor is a result of research and development. It is a cellular structure, taking the form of keystone-shaped steel beams.

Each unit is built by pre-forming two steel sheets and subsequently welding these two sheets together in the plane above the neutral axis. As delivered to the construction job, the unit is either two cells (twelve inches wide), or four cells (twenty-four inches wide), and in the longest length convenient for handling and adaptation to span requirements. The maximum weight per unit, except in special cases, is about 400 pounds. Generally, the average unit weighs less than 250 pounds. The design is such as to develop the maximum efficiency of the steel.

The high strength factors, combined with the relatively low weight per square foot (as shown in our load tables) suggest that savings in building construction may be effected, because of the decreased load-carrying requirements for floor slabs, columns and foundations. The physical properties are interesting in that they may assume either large or small values dependent on the gauges of sheet metal used in fabrication.

Fundamentally, the original keystone-shaped cell possesses a great deal more strength than is needed for many load and span conditions. It is adaptable for all general floor construction. However, the strength may be modified not only by changing the gauge of the plates, but by changing the method of assembly of component parts; i.e., by putting a flat plate on top of either the top or bottom plate, by combining either two bottom plates or two top plates, or by adding flange plates to top and bottom of the fundamental keystone-shaped cell for the development of greater strength for the resistance of bending and deflection. Provision can be made for all combinations of floor loads up to 500 or more pounds per square foot and for all required span lengths.

Besides being incombustible and fire-safe, this floor slab is exceptionally adaptable to various types of floor finishes. Concrete fill is applied directly to the surface of the floor. Ceilings can be suspended from the underside; likewise, steam and water pipes. Plumbing, wiring and various other services are easily installed (and later serviced) in this cellular type of floor.

The floor erection crew is able to follow a floor or two below the structural iron workers; and the other trades are enabled to work directly on the floor immediately after it is laid—and before and during the process of welding to the cross members. Thus erection time is speeded and definite economies are effected.

The most important feature of this floor, from the standpoint of the individual or corporation investing in a building, is the electrical flexibility provided by its multiple cells, each one a potential electrical duct or raceway for present or future electrical service.

Chapter and Club Meetings

OREGON CHAPTER

The Oregon Chapter, A. I. A., held an enjoyable outing at Roosters Rest, June 30. Those present were Messrs. Crowell, Bean, Whitney, Parker, Forrest, Church, Holford, Herzog, Johnson, Johnston, Clausen, Hemenway, Sundeleaf, De Young, Legge, Jones, Whitehouse, Doty, Wallwork, Marsh, Newberry, Jacobberger, Brookman, Aandahl and Howell.

The first event on the program was a baseball game between Knighton's "Kittens" and Whitney's "Wildcats." The Kittens were conditioned and trained by the old master Whitehouse. The issue of the hotly contested game was in doubt until the last out was made. Finally however, with the spectacular assistance of shortstop Aandahl, the key man of the Kittens, and several questionable decisions by Umpire Holford, the Wildcats were tamed by the close score of 13 to 4.

There was much spirited competition in the horse-shoe pitching tournament. A large gallery followed the work of Brookman, who displayed an originality of form and a freedom of technique that others may imitate but never equal. In the finale, Whitney and Forrest defeated Johnson and Hemenway in a close contest.

The African domino tournament was run off unofficially. It is regretted that we have insufficient information to make a complete record of this event, but it is thought that Herzog may be able to supply first hand information, as it is reported he borrowed money from Church to pay for his supper.

After an excellent meal prepared by the entertainment committee, Harold Doty, master of ceremonies, conducted an architectural clinic in the spirit of the occasion. Fortunately the speeches were limited to one minute, and Doty was able to turn the meeting over to the President intact.

President Crowell declared the meeting open for business.

Mr. Whitney, chairman of the special committee, reported on the building projects which seem most feasable at the present time. He supplemented his report by recommending that a committee, made up from the A. I. A., O. B. C., A. G. C. and the building trades, work together with the view of getting building construction projects started.

Mr. Bean discussed the program advocated by the Civic Emergency Federation.

Holford suggested that a committee of the Chapter:

(1) Review the building program of the Civic Emergency Federation. If the program is worthy, the Chapter would support it; otherwise, oppose it.

(2) Canvas the membership of the Chapter for those willing to do the preliminary work for building projects, necessary to make request for the loan, such preliminary work to be done on a contingent fee basis.

Mr. Bean suggested that a committee formulate a plan to present to the City Council, County Commissioners and the School Board, providing a method for furnishing such preliminary work.

Holford moved that the President appoint a committee to proceed along the lines discussed, namely, formulate a plan of procedure for the promotion of building projects, the execution of preliminary work on a contingent fee basis, and secure the co-operation of the O. B. C., A. G. C., and organized labor. The motion was seconded by Mr. Whitney and carried.

Mr. Holford moved the acceptance of the report of the special committee. Seconded and carried.

The President announced the appointment of the special committee to be: Messrs. Whitney, Chairman; Brookman, Jacobberger, Holford and James.

Mr. Aandahl moved that authority be given the executive committee to work with the special committee, and that a special meeting of the Chapter be held Tuesday, June 27th, to consider the report of the special committee, with the idea of presenting a concrete plan to the City Council and subsequently to the County Commissioners and School Board. Also that all architects report

to the special committee those projects upon which they have been working, or in which they have an interest.

Mr. Holford moved that the Chapter go on record, thanking the entertainment committee for its fine work. All present seconded the motion, and it was unanimously carried.—L. D. H.

WASHINGTON CHAPTER ENTERTAINED

Members of the Washington Chapter, A. I .A., were guests of the Tacoma members at an outdoor meeting Saturday, June 24, at Lake Spanaway. Inspection of the newly erected buildings at Fort Lewis was one of the features of the day.

The Institute is backing the program of the Washington Construction League 100 per cent, announced President J. Lister Holmes, following a recent executive board meeting held in Seattle.

SEATTLE ARCHITECTURAL CLUB

The design of an hypothetical and monumental opera house to occupy two city blocks in the Denny Regrade District and facing Denny Park, is the problem engaging the members of the Seattle Architectural Club at the new quarters, 4426 White-Henry-Stuart Building. Elso B. DiLuck, Kathleen Neely and Harry Wolfe are taking turns keeping the place open since Secretary Adolph Engstrom was called into service as a reserve officer to take charge of a camp for the Civilian Conservation Corps.

SEATTLE ART MUSEUM

Valuable service to the members of the architectural profession will follow the formal opening of the magnificent Seattle Art Museum designed by Messrs. C. H. Bebb and Carl F. Gould of that city. The presentation of the building to the city took place on June 29 in the bandstand situated in Volunteer Park. Mrs. Margaret E. Fuller and her son, Dr. Richard E. Fuller, presented the museum as a gift to the city.

MARRIED

Harrison J. Overturf, head designer in the office of George Wellington Stoddard, Orpheum Building, Seattle, was married to Miss Marian Elder at the Bethany Presbyterian Church, Tacoma, May 26th. They have taken residence at the Laurabelle Apartments, 1112 North Broadway, Seattle.

SAN LEANDRO RESIDENCE

Chas. S. McCall, architect, 14th and Franklin Streets, Oakland, has completed plans for a residence to be erected on the east line of Arbor Drive, San Leandro, for M. A. Barr, 831 Lee Avenue, San Leandro.

LOS ANGELES ARCHITECTS MEET

How funds are to be secured from the Reconstruction Finance Corporation for housing projects, was outlined by Charles H. Cheney, architect and city planner, at the June meeting of the Southern California Chapter, American Institute of Architects. Recent state legislation providing for organization of corporations to build low rental housing projects with R.F.C. funds was also explained by Mr. Cheney, who said that an architectural advisory board would be set up in the state to consider plans for these projects. Two Southern California architects will serve on the board, the members of which are to be selected by Archbishop Hanna of San Francisco. Local architects nominated by the Chapter for these appointments are Myron Hunt, Sumner Spaulding, David J. Witmer and Palmer Sabin.

Ralph C. Flewelling followed Mr. Cheney with an illustrated talk on slum areas in Los Angeles.

An exhibition of California crafts in the Western Arts galleries was visited by the architects.

Gordon B. Kaufmann, president of the Chapter, presided at the meeting.

The following members and guests were present: Gordon B. Kaufmann, Walter Webber, Sumner Spaulding, Paul J. Duncan, Carleton M. Winslow, J. T. Zeller, Frank Baden, L. A. Parker, G. Stanley Wilson, A. E. Hansen, William Richards, Ralph C. Flewelling, Sumner Hunt, R. Germain Hubby, H. Roy Kelley, A. M. Edelman, Scott Gerity, Palmer Sabin, Ralph D. Cornell, Pierpont Davis, William H. Kraemer, Robert H. Orr, J. E. Allison, Marshall Laird, E. F. Bissantz, J. J. Miller, Charles H. Cheney, Paul R. Hunter and Miss Lita Horlocker.

ENGINEERS NAMED

Richard M. Merriman and Lester V. Branch, C. E., of Los Angeles, have been appointed to the Metropolitan Water District staff engaged on construction of the Colorado River Aqueduct.

Mr. Merriman will be division superintendent on the Coachella tunnel division of the aqueduct, while Mr. Branch assumes the duties of senior engineer.

Mr. Merriman will have direct charge of the district forces which are pushing forward with construction of 26 miles of tunnel in the Little San Bernardino Mountains, north of the Coachella Valley. These bores, comprising one of the most important sections of the entire aqueduct, are being driven by the district itself.

Mr. Branch will be associated with Julian Hinds, assistant chief engineer of the district, with headquarters in the Los Angeles office. He is to assist in general administrative engineering work.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Building materials, including plumbing fixtures, lumber, millwork, etc., advanced from 15% to 25% the past month.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—
Common, $29 to $33 per 1000 laid, (according to class of work).
Face, $70 to $85 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.00 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.75 sq. ft.
Common, f. o. b. cars, $15.00 plus cartage.
Face, f.o.b. cars, $30 to $44 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 69.00 per M
4x12x12 in.	78.00 per M
6x12x12 in.	107.00 per M
8x12x12 in.	174.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor ..... 14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 40 cents; clay or shale, 80c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $75.00 per balcony, average.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 70c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 30c per square foot.
Obscure glass, 26c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $28.00 per M.

1 6 No. 3—Form Lumber	$19.00 per M
1x4 No. 1 flooring VG	46.00 per M
1x4 No. 2 flooring	43.00 per M
1x4 No. 3 flooring	38.00 per M
1x6 No. 2 flooring	44.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1x4 No. 2 flooring	$33.00 per M
1x4 No. 3 flooring	28.00 per M
No. 1 common run T. & G.	28.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdl.e
Redwood, No. 2	.70 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—
13-16x3¼" T & G Maple .....$ 90.00 M ft.
1 1-16x2¼" T & G Maple ..... 117.00 M ft.
⅞x3½ sq. edge Maple ..... 110.00 M ft.

	13-16x2¼" T&G	⅞x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finisbing	14c ft.	12 ft.	11c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.90
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.10 per 100 ft.
Sash cord com. No. 8	1.25 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	2.10 per 100 ft.

Sash weights cast iron, $50.00 ton
Nails, $3.25 base.
Belgian nails, $2.75 base.

Millwork—
O. P. $75.00 per 1000. R. W., $85.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $4.75 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.75 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.75 each.
Dining room cases, $5.75 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $9.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—
Two-coat work ..... 28c per yard
Three-coat work ..... 38c per yard
Cold Water Painting ..... 10c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).
1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots..... 11½c

Red Lead in Oil (in steel kegs)
1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots..... 13c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$ .85 lineal foot
8-inch	1.25 lineal foot
10-inch	1.40 lineal foot
12-inch	1.60 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $65.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $16.00 to $25.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural
$85 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $85 per ton cost of steel; average building, $85.

Steel Reinforcing—
$75.00 per ton, set, (average).

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All Classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Special Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 6 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

SPOKANE MUNICIPAL ARENA

H. C. Whitehouse, of Whitehouse and Price, is acting for a time as consulting architect for the city of Spokane. He is designing a Farmers' Market and a Municipal Arena at the fairgrounds, as a part of the program outlined for bringing public works funds to Spokane.

Several weeks will elapse before plans for the market can be completed.

The municipal arena would cost approximately $410,000. The building would be fireproof, of brick and reinforced concrete construction and would provide work for 514 men for eight months.

C. R. Butcher is also very busy at the city hall. He is designing bridge heads besides working on the general design for the proposed Oak-Ash Street Bridge which would cost approximately $579,000.

WILL DESIGN MODEL HOME

First honors in the architectural competition for the Breuner model home to be erected in Piedmont Pines has been awarded to Miller and Warnecke, architects, of Oakland.

Honorable mentions went to W. R. Yelland, William A. Rich and the firm of Williams and Wastell.

Several hundred votes cast by the general public during the last week in which the 19 drawings entered in the competition by Bay City architects were on display in the studio of the Breuner Building, were helpful to the committee in rendering the final decision, which Miller and Warnecke won with a residence rendered in the Californian-Colonial style.

Clarence A. Tantau was a member of the jury.

PORTLAND BUILDING PROJECTS

City Engineer O. Laurgaard, at the instance of Governor Julius Meier, has prepared a list of projects which may be financed with Federal funds to aid in relief of the unemployed. Some of the major projects contemplated include:

City hall alterations, $100,000.

Baseball pavilion and field, $200,000.

Conversion of old post office into a museum, $150,000.

Bus terminal, $550,000.

Public wholesale market, $750,000.

Truck terminal, $200,000.

Civic theater and outdoor bowl, $250,000.

Municipal rooming house, $350,000.

HOSPITAL PLANS

James E. Blackwell, Medical Arts Building, Seattle, is busily engaged making out his preliminary working sketch for the new ward building to be built at the Northern State Hospital at Sedro-Woolley.

OF THEE I SING—1881

A letter written to Architect Mason in Detroit by a draftsman in Chicago in May, 1881, has just come to light. Parts of this letter are reprinted here from the Monthly Bulletin of the Illinois Society of Architects. It recalls many long dormant memories of the "Elegant Eighties":

Friend Mason:

Adler led off with a new style this spring and last winter. It is strongly oriental. J. M. Van-Osdel, Jr. told me he thought it was architecture run crazy. It certainly is a departure in the Jewish direction such as I have never seen before, and has features belonging to the ancient Egyptian. Burnham & Root have gotten up their first office building that I know of. From the heavy brick Portland Block, corner Washington and Dearborn streets, it runs south some 80 feet on Dearborn and is six stories tall, with mansard and steep tower shooting skyward. Now that the N. W. Depot is finished, it is universally admired.

I do not know whether you visited the interior of the Nickerson house when you were here, as I recommended, or not. The steam engine and rubbing bed was running last Saturday grinding away the marble pretty much as it was when you were here, except we (R. W. Bates & Co. and employees) have made them move out of the library and art gallery, and they have gone into the drawing room. Their work is pretty well finished. They are now putting up the stair rail, which is of choice marble with beautifully carved alabaster open work about 1½" thick between rail and curb. Floor of main hall, which is about 18x52 feet on first floor, also on second floor, is of white and black marble blocks. The walls of hall are of various colored marbles and onyx finished off in wainscoting or dado, with field or wall above to frieze and then cornice.

All this work is done off in panels, etc. Caps, rosettes and other carving is introduced wherever it will improve appearances. Stiles, columns, etc. are marble and panels are onyx.

The ceilings of the halls are marble panels in iron framework. In front of grand stairway in second story there is an opening through hall floor to first story, enclosed by marble and alabaster railing. Third story hall has parquet floor. It would be hard to comprehend the beauty of the interior without seeing it. As you may remember, it was designed by A. Fiedler who for years was designer for one of the leading decorative and art furniture manufacturers of New York City, under a salary of some $1,800 per year, working about six hours a day. I have seen him work. He will do as much drawing in an hour as a pretty good ordinary draughtsman will do in five or six hours. His scale drawing is chiefly

lead pencil sketches, largely done freehand, over which he brushes on a tint of water-color.

Some years ago he came here from New York City with $7000 or $8000 and started a factory, but was drawn into some real estate speculation and lost all. Then he took a partner and they failed again, our foreman says, by giving rich people better work than they will pay for. Last year he hired to Schasty of New York City, who finishes the drawing room and some other rooms of Nickerson's, but this spring he came back and went in with Addison.

I have it pleasanter this year than I had it last. Bates offered me $10 per week but finally gave me $13 when I would not take less, and tried to have me contract for two years instead of one, which I would not do. The evening after the day I pledged myself to Bates, Addison & Fiedler offered me $14 per week by the year. Bates was sharp and forced me to a contract before my time ran out, so others should not have a chance to make me offers.

We have Mitchel's work about ready to set up. Mrs. Alexander Mitchel, after buying carpets for the room, came around and ordered a design for one woven whole. We have recently gotten up carpet, mantel and furniture for a very large and beautiful parlor in Louisville, Ky., in Louis XVI style, with a little Japanese feature introduced which enlivens the style much. Last Friday and Saturday I was detailing the cupboard closets and paneling that enclose the plumbing in the bathroom off of Nickerson's own chamber. It is in St. Domingo mahogany, trimmed and relieved with brass. The floor of this bathroom is encaustic tile—wainscoting marble. Between it and frieze, same as floor, plain light grey encaustic tiling, band under frieze marble; frieze diaper-pattern of yellowish green glazed encaustic tile, each piece about 3 inches square, every other one having rings. Bates is now in New York. He left me with order to complete design of finish for drawing room of a New York City mansion, one side of which he took with him. We had already designed a hall carpet for them which they liked sufficiently to order; and to take the finishing of their drawing room out of their architect's hands and give it to us. The woods we propose to use are satin and Amerant style Louis XVI with Japanese treatment of ornamentation. Ceiling is timber ribs and canvas panels.

In our first class houses it seems to be the present fashion to give the designing of the best rooms to decorative cabinet designers, American architects as a rule not being sufficiently educated in this department of their profession. Viz.: Burling is architect of Nickerson's house, but Fiedler was employed on the room finish, and even in marble work Fiedler's design for stair rail is taken in place of Burling's. Even at lower end of main stair the iron framework of flaring end of stringer and curb is being cut away to suit Fiedler's changes.

One block south of Nickerson's, Medill is building a large house. Palmer and Spinning are the architects but Fiedler has been employed to design finish for two best rooms, and R. W. Bates & Co. have contract for the work. We also have contract of finish for main hall, dining room and closets off. Very little of the work comes to us completely enough detailed that our men can make the work until I go over the drawings and complete them, so you may warrant that I don't have much loafing to do. Bates deals in carpets, and I have to measure the rooms and prepare the diagrams for these also so that the carpets made from them will fit. Our largest carpet order this season was for a house on Prairie Avenue and amounted to about 800 yards. It was almost like a hotel in size. There were six bays to fit with window recesses, mantels, hearths, stairways, etc.

You should have seen Chicago River this spring, running with a furious boiling torrent into the lake. It runs the other way now, and I believe a move is being made to run the tunnel two miles farther into the lake. I am glad of it, for the water does not taste very good at second drinking. My best respects to you and Zack Rice, and all your folks.

Yours respectfully,

D. Davis.

After reading Mr. Davis' letter in its entirety, Mr. Irving K. Pond contributed the following:

Dear Mr. Editor: I thank you very much for showing me the copy of the (in no bad sense) gossipy May 22, 1881 letter of D. Davis to his friend, George D. Mason of Detroit. It brings back many long dormant memories of the "Elegant Eighties." I, too, worked for R. W. Bates, who at that time had a factory on the east end of the lot on which the Republic Building now stands, at the southeast corner of State and Adams streets. In this factory Bates fabricated many of the fine interiors designed by himself or from the offices of the best architects of the city —Burnham and Root, Burling and Whitehouse, Treat and Foltz, etc. While with Bates, I full-sized and made shop drawings for much of this work from the none too well developed small scale drawings of the architects. During the six months I was with Bates, I designed for him much original and at that time "new art" furniture; and this before I had been six months out of an engineering school with the degree of C. E. I designed in color a large one-piece period carpet (Louis XVI as I remember it) for an elegant south side mansion. This was woven in France from my design!

I went to Bates from the office of W. L. B. Jenney, which I had entered in the summer of 1879, and where I worked but a few weeks when the opening at Bates' offered. I left Bates possibly for the same reason that Davis did; because I did not consider my wages commensurate with my responsibilities or my true worth(!) although I never got so little with Bates as Davis says he was receiving a year later. I went back to Jenney and, in the spring of 1880, was called to assist S. S. Beman who had but recently come out from New York to design and build the town of Pullman and his friend "Nate" Barrett, landscape man of New York, who had laid out George M. Pullman's private properties in the East.

Davis finally achieved $13 per week with Bates. Although getting considerably more than that, I left because of a desire to construct rather than to spend my life on decorative stuff merely. On leaving Jenney, with whom I was getting little other than experience, he advised me to ask Beman for $4.50 per day as the engagement bade fair to be but temporary. This I did, well knowing that I was not worth it. We compromised on $4 per day as Beman had expected to pay but $3.50! The engagement lasted from the spring of 1880 to the summer of 1886, with the year I spent abroad ('83-'84) taken out, and the salary kept on increasing. Beman offered me a partnership if instead of going abroad I would remain and carry on his private practice which was developing with the impetus derived from his connection with the Washington Park Driving Club, the house for which I designed more or less in my spare hours.

Returning to Beman after by year abroad, my first job was to design the marble stairway in the Adams street court of the Pullman Building, which structure had been enclosed in my absence and into which Beman had moved his offices from the town of Pullman. In this office I designed and drew free hand, with a Joseph Gillott 303 pen, the street and lot line elevations of the Studebaker warehouse on Michigan Avenue, later to become the Fine Arts Building. There were structural innovations in this design, later incorporated into the Auditorium Building, but not so successfully as in the Studebaker, which evidently inspired the designer of the Auditorium, who was not always successful in the use of unconventional structural expedients. When Adler and Sullivan took Richardson for a model, they were on safe ground; but they were not always happy in following the lead of bolder spirits. Incidentally, it may be noted that while the Pullman Building and its stairway antedated the Studebaker, the latter building antedated by a considerable period the Auditorium.

In 1885 my brother, Allen B. Pond, joined me in Beman's office, where for all these years I had been head draughtsman, and, under the fine tutelage of Beman's assistant, Brown, my brother grasped the fundamentals of the executive side of the profession. In the summer of 1886, I having in the meantime been successful in winning a competition for the new Detroit Opera House, my brother and I on the strength of that commission embarked together on the uncharted and hazardous seas of architectural practice which for forty-three years we navigated together; with what success the public and the profession are left to judge. Four years ago he was called to the Beyond.

For fifty-four years now I have been following the phantom of architecture; but I never cease to smile at the temerity or courage or ignorance of a young cub who, fresh from an engineering school, in which a broad culture went hand in hand with technical training, and devoid of any architectural background, should immediately tackle the job of designing interiors, furniture, carpets, etc., in the mode; and of managing then and ever since to express an individuality which has been recognized as being a bit in advance of the times. Perhaps I am still too young (at heart) and inexperienced in the ways of life, to realize just what I am implying in the foregoing words.

Yours,

Irving K. Pond.

HOTEL RED BOOK

The official Hotel Red Book and Directory, for 1933, has made its appearance from the publication office, 221 West 57th Street, New York City.

This is the 48th edition to appear under the direct supervision of the American Hotel Association. It contains a complete guide to the principal hotels of the United States and Canada with over 18,000 hotels listed together with plans of operation, rates, facilities and the names of the proprietors or managers.

$275,000 BREWERY

O'Brien Brothers and W. D. Peugh, architects, 333 Montgomery Street, San Francisco, have been commissioned by the Samarkand Brewing Company, 893 Folsom Street, San Francisco, to prepare plans for a reinforced concrete brewery to cost $275,000. The brewery is to have a capacity of 100,000 barrels per year.

OAKLAND DWELLING

Olaf Peterson, 1937 East 15th Street, has been awarded a contract at about $5,000 for the erection of a two-story frame and stucco residence on Clemens Road, Oakland, for T. J. Walsh. Plans for the house were prepared by Miller & Warnecke, architects, Financial Center Building, Oakland.

FINE ARTS AT UNIVERSITY

Summer sessions of the fine arts classes began at the University of Southern California June 21. The Department of Fine Arts offers a program of study of special interest to teachers as well as to professional artists and craftsmen. In addition to fundamental art subjects, several new courses will be given.

The University of Southern California is fortunate in securing the services of several visiting instructors. Miss Jessie M. Todd, Professor of Methods and Supervision of Art, University of Chicago, is known throughout the country as one of the most successful teachers of art. She has pronounced ability in stimulating her students to their most individual and creative efforts, and she has been proclaimed as one of the most refreshing and vital personalities in the field of art education. Her latest book, *The Enjoyment and Use of Art*, was released from the press last month. Miss Todd's course in Curriculum and Methods in Art deals with the content and method of teaching art in the modern school, the organization of courses, and available sources of help and suggestion for the teacher.

Miss Helen M. Ryan, instructor in Fine Arts at the Compton Junior College, has had a broad contact with the teaching of art in Southern California. Miss Ryan's course in Design and Color has been recommended by and arranged in collaboration with Miss May Gearhart, Supervisor of Art in the city of Los Angeles, for the purpose of meeting the particular needs of junior and senior high school teachers.

Glen Lukens, teacher of ceramic art, has been for eight years head of the Ceramic Department at the Fullerton Junior College.

The course in Appreciation of Modern Architecture will be given by Dean Arthur C. Weatherhead, who has traveled widely, and will offer an interesting and fundamental approach to the appreciation of the oldest of the arts. Special emphasis will be given to the study of the architecture of the Chicago Exposition and its meaning and importance in the development of a contemporary American architecture.

VIMLITE HEALTH GLASS

The Vitalite Company, 500 Fifth Avenue, New York, through Taylor, Rogers and Bliss, Inc., have issued a brochure on Vimlite, a flexible health glass especially adapted for greenhouses, conservatories, sun porches and solariums. This product has a high ultra-violet ray transmission. Architects Reference Bulletin, 1933 Series A.I.A. File 26-A-92. Additional information can be obtained from the Vitalite representatives, Baker, Hamilton & Pacific Co., San Francisco, or the Hammond Lumber Company, Los Angeles.

ARCHITECTS AND FEDERAL WORK

Steps to enlist the nation's ablest architects and engineers in the design and construction of Federal buildings under the National Industrial Recovery Act have been taken by the Treasury Department, according to a statement by Ernest J. Russell of St. Louis, president of the American Institute of Architects.

Mr. Russell sees greater recognition by the Federal Government of private practitioners in architecture and engineering, an objective which the Institute for several years has sought to reach by act of Congress, and praises L. W. Robert, Jr., Assistant Secretary of the Treasury in Charge of Public Buildings, as one who "has all of the qualities most desired by the designing professions."

The architectural and engineering professions are being combed for the best available talent, Mr. Russell discloses, following conferences between Mr. Robert and officers of the Institute and the American Engineering Council.

"Announcement cannot be made at this time concerning the full program for expediting Federal building under the jurisdiction of the Treasury Department," Mr. Russell's statement said, "but it should interest the architectural profession to know that Mr. Robert has called upon the Institute and the Engineering Council to furnish him with lists of competent architects and engineers in every state in the Union. The development of such lists with respect to the architects is a task of great importance, which has been taken in hand by the Chairman of the Institute's Committee on Public Works, Louis LaBeaume of St. Louis.

"There has been full and friendly discussion of the whole question of Federal employment of private architects and engineers under the jurisdiction of the Treasury Department. Mr. Robert has volunteered the information that in the present emergency he intends to recognize the professions to the fullest extent.

"He frankly states that he expects services of the highest character, and that they shall be rendered most expeditiously. He further states that he expects to scrutinize the qualifications of architects, and that he is particularly concerned with their ability to render structural electrical, and mechanical engineering service.

"If it is deemed desirable, he expects to appoint engineers to serve with architects in order that the buildings may be of the highest type and representative of the best efforts of the designing professions. This co-operation of the designing professions and the recognition accorded to them by the new Assistant Secretary are of great encouragement."

The presidents of the Institute's sixty-seven Chapters in all parts of the country have been asked to hold themselves in readiness to function promptly and efficiently upon receiving a call for co-operation from Mr. LaBeaume.

"When a complete list of architects, competent for appointment to Government work, has been compiled by or on behalf of the Institute, that list will be placed in the hands of the Treasury Department officials by the Committee on Public Works," Mr. Russell's statement continued. "Thereafter, the Department may undertake to secure more detailed information with respect to the architects on the list, either directly or through the Institute.

"This call from the Assistant Secretary of the Treasury is an opportunity for the Institute to render a difficult and valuable public service. Every member of the Institute is being urged to co-operate. Architects must not fail to act promptly, effectively, and without regard to personal interests. By so doing they will justify the confidence which has been placed in the Institute and will render a service to the Government and to the profession."

Under the Public Works Section of the National Industrial Recovery Act appropriating $3,300,000,000 for public works and construction projects, there is opportunity for the employment of private architects in Federal, state, and municipal projects of many types, Mr. Russell pointed out.

The sub-section which provides for construction under public regulation or control of low cost housing and slum clearance projects, he added, is of particular significance to the architects in many cities.

Mr. Russell commended the service of Robert D. Kohn of New York, past president of the Institute, in helping to draft the Recovery Act. Mr. Kohn is Chairman of the Institute's Committee on Housing and General Chairman of the Construction League of the United States.

Close co-operation between architects and the Federal Government comes as a climax to a long struggle by the Institute to bring about wider employment of practicing architects in the design of public buildings. Adoption of this policy, the architects have contended, will avoid stereotyped and mediocre design, and improve the standards of public architecture.

PRIVATE ARCHITECTS AND FEDERAL WORK

[*From The Octagon*]

There have been a number of conferences between officers of the American Institute of Architects, American Engineering Council, and L. M. Robert, the new Assistant Secretary of the Treas-

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ury, in charge of Public Buildings, in which there has been full and friendly discusion of the whole question of Federal employment of private architects and engineers under the jurisdiction of the Treasury Department.

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Announcement cannot be made at this time concerning the full program for expediting Federal building under the jurisdiction of the Treasury Department, but it should interest the profession to realize that Mr. Robert has called upon the Institute and Engineering Council to furnish him with lists of competent architects and engineers in every state in the Union. The development of such lists with respect to the architects is a task of great importance which has been taken in hand by the Chairman of the Committee on Public Works, Louis LaBeaume.

Chapter presidents are asked to hold themselves in readiness to function promptly and efficiently upon receiving a call for cooperation from Mr. LaBeaume.

When a complete list of architects, competent for appointment to Government work, has been compiled by or on behalf of the Institute, that list will be placed in the hands of the Treasury Department officials by the Committee on Public Works, for their information.

* * *

The successor of Major Heath in the Treasury Department is Lawrence Wood Robert, Jr., 43, Georgia-born and Georgia-raised.

Before he went to college Mr. Robert spent a year working on railway construction for his father. After receiving his B. S. degree in 1908 (he is both a civil and an electrical engineer) he worked for Park A. Dallas, cotton mill engineer. In 1916 he formed Robert and Company, consulting engineers and architects. Since then the firm has handled $250,000,000 worth of projects in seventy-five cities and twenty states.

Mr. Robert is a member of the Georgia State Board of Architects and of the national societies of Civil, Electrical and Mechanical Engineers. He is a director of the First National Bank of Atlanta. During the war he built a large textile mill

at Columbus, Ga., for the Bibb Manufacturing Company, of Macon. It is still the largest single mill in the world. His firm handled all the cotton mills of Goodyear and Goodrich.

He has played a big part in Georgia Tech's affairs and has done considerable of its building work and is one of its trustees. He is a close friend of the former Senator John Cohen, publisher of the Atlanta *Journal*.

STATE TO AID BUILDING INDUSTRY

Carlos W. Huntington, registrar of contractors, has asked the attorney general for an opinion on the power of a regulatory state agency to aid the California building and construction industry under the National Industrial Recovery act, providing for the organization of each industry and formulation of a code of ethics to guarantee fair play and eliminate unfair competition.

This action follows receipt of requests from leading groups in the building industry for cooperation in formulating a code of ethics and fair play for California contractors under the program of President Roosevelt.

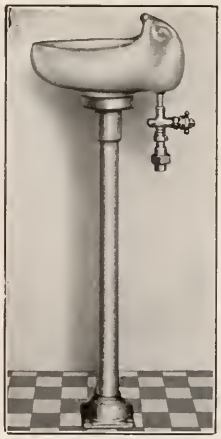
"We are anxious to cooperate with the industry in every way possible in any movement which has for its objective the return of normal business conditions, which is the goal of the National Industrial Recovery act," said Colonel Huntington, who has indicated that a program of cooperation with the construction industry would soon be formulated. "We will welcome any suggestions from the industry," he said, "as to the manner in which we can best cooperate, providing, of course, that Attorney General Webb holds that this is within our power."

"California's contractors' act, adopted by the 1929 legislature, has as its objective many of the purposes provided in the program of President Roosevelt. The state law also gives the public ample opportunity for redress against any fraudulent contractor. The national program, in some respects, is more stringent," he said.

Under the Roosevelt national program, all industries are expected to, and may be compelled to, organize themselves and agree upon a uniform code of ethics which will provide for fair play, protection of labor and the elimination of unfair competition.

This code must be drafted and agreed upon by a majority group in each major industry, and, upon approval by the President, will be binding upon all persons engaged in that industry. Failure of any industry to comply voluntarily with provisions of the act empowers the national administration to promulgate a code covering that industry and provide severe penalties for violators.

"The California building and construction industry has evidenced a sincere desire to join in



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the national recovery program," said Huntington, who is also director of the department of professional and vocational standards in Governor Rolph's cabinet.

"Consequently, we stand ready and willing to offer our entire resources toward the program."

Governor Rolph recently telegraphed President Roosevelt, pledging the cooperation of the state government in the program.

While the opinion requested by Huntington dealt only with the office of registrar of contractors, it is declared possible that similar cooperation may be extended to other professions and industries operating under the jurisdiction of the department of professional and vocational standards.

IN BUSINESS FOR HIMSELF

Fred K. Du Puy for eleven years construction engineer for the Marion Realty Company of San Francisco, has severed his connection with that company, and has opened an office at 110 Sutter street, San Francisco, for general contracting, valuation and appraisal work. He already has more than $30,000 worth of construction work under way. While associated with the Rousseau Brothers, Mr. Du Puy was in charge of construction of the El Cortez and Gaylord Hotel properties and more than 160 bungalows in the Sunset District, San Francisco.

ELEVATORS FOR BOHEMIAN CLUB

Orders approximating $40,000 have been placed with the Otis Elevator Company for the elevator equipment in the new Bohemian Club, San Francisco.

This installation calls for three collective control passenger elevators with lifting capacities of 2500 pounds and operating speeds of 250 feet per minute. There will also be one automatic control freight elevator with 2500 pounds capacity and a service lift of the same capacity.

Work will be started immediately.

DISSOLVE PARTNERSHIP

Otis Hancock and Frederick V. Lockman, Seattle architects, have dissolved partnership and are now practicing independently. Mr. Lockman retains the old offices at 426 Douglas Building, while Mr. Hancock has taken desk space in the office of D. E. Fryer and Company in the Textile Tower.

BERKELEY STUDIO HOME

F. R. Peake, Community Building and Loan Association, 2122 Shattuck Avenue, Berkeley, has recently started work on a six-room English style studio home in Euclid avenue beyond Eunice street, Berkeley, from plans by Edwin Snyder, architect.

NEW WORK FOR ENGINEERS

With diminishing rent, rising taxes and heavy interest charges, sorely pressed building owners and managers are feeling the need of trained engineers of the executive type in the management of office and apartment buildings.

When the general trend of business decided to follow the path of one of Dante's well-known inspection trips, about twenty-five hundred engineers found themselves with no assets but a highly specialized training and a letter of recommendation from their last boss. True, they had managed large plants and large numbers of men, but the plants are now closed and the men were out of work like themselves. They had handled large power plants and many costly machines, but the furnaces were cold and the machines idle. Prospects weren't any too hot . . . but the depression hit real estate also and the picture improved considerably for the engineers, at least.

Foreclosures in the last two years have placed many properties in the hands of new and unwilling owners . . . banks and savings institutions. The latter have been quick to realize that adequate maintenance is necessary to the proper protection of their investment and that small but timely repairs to the structure will prevent heavy depreciation, while skilled supervision reduces high operating costs.

As a result, the heating plants of many office buildings in New York, and other cities, are now being operated by combustion specialists and in the apartment field, the college graduate with an engineering degree, is fast replacing the conventional janitor.

DEFINITIONS FOR AIR CONDITIONING

Definitions for air conditioning equipment were agreed upon by the air conditioning manufacturers at a meeting in Chicago June 8. These definitions divided air conditioning equipment into three classifications (1) Complete air conditioning equipment (2) Winter air conditioning equipment, and (3) Summer air conditioning equipment.

Complete air conditioning equipment is that which provides simultaneous control of temperature, humidity, air motion, and cleaning within an enclosure throughout varying seasons.

Winter air conditioning equipment provides simultaneous control of temperature, humidity, air motion and purification within an enclosure in the winter months.

Summer air conditioning equipment provides for simultaneous control of temperature, humidity, air motion and purification during the summer months.

No manufacturer, or dealer, shall have the right to use the term "Air Conditioning," "Summer Air Conditioning," or "Winter Air Conditioning," unless the equipment offered provides the func-

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tions outlined above within the standards provided for. For instance, equipment which provides humidification alone must not be described by the term "Air Conditioning." It shall be called humidification equipment or some similar defining term.

The question of certification was taken up, and discussion quickly uncovered the enormous complexity of undertaking a general plan for the certification of equipment by manufacturers for the benefit of the purchasing public. Certification was divided in technical codification in compliance with which the manufacturer built his equipment and certification to the ultimate purchaser that the equipment would properly perform the functions for which it was bought.

It was pointed out that machinery is already set up for technical codification or certification. The technical societies such as the American Society of Heating & Ventilating Engineers, the American Society of Mechanical Engineers, the National Electric Manufacturers Association, the American Society of Refrigerating Engineers, the Warm Air Heating Association, already provide machinery for the accomplishment of technical codification, and have done much toward setting technical standards for air conditioning equipment. It was suggested that the American Standards Associaiton might correlate the activities of all the related associations and combine the existing codes, thereby establishing one code under which all equipment could be tested and certified by manufacturers as meeting the requirements of the code.

Certification of equipment to the public becomes another and more complex subject. The correct functioning of equipment depends on the installation of the equipment. If it were improperly installed, even certified equipment would not perform the functions for which it was purchased. It was suggested that after contractors' plans for air conditioning installation had been completed they should be presented to an association where they can be examined, the different units checked as to rating to see if the correlated combination will meet the requirements of the job. At the same time this association could check up the contractors' figures. A job could be examined and thus be certified by such an association. It was suggested that the Heating and Piping Contractors Association might be expanded into the Heating, Piping & Air Conditioning Contractors Association to properly perform this function of certification of the job to the public. This would mean correlating in some way with the Warm Air Heating Association.

If there were two such associations, it would be necessary that they certify the equipment to meet equal standards of performance. Opinion

seemed general that this step of installation certification was a long way in the future and should not be attacked until a definite code of technical certification had been generally accepted by manufacturers.

BAY BRIDGE IS UNDER WAY

Construction of the San Francisco-Oakland Bay Bridge has started and for the next three years ferry commuters will have plenty to interest them on their daily trips across the Bay.

Activity on the structural battle front is now located in the following sectors:

Transbay Construction Company is cutting the end of Pier 24, pulling up the piling, and dredging out the mud preparatory to the construction of a coffer-dam for the most westerly pier of the San Francisco-Oakland Bay Bridge, which goes to a depth of 100 feet below the surface of the water.

The Pacific Gas and Electric Company is moving a transmission cable so that it will cross the bay from Pier 28 instead of Pier 20, in order to make way for one of the piers of the San Francisco-Oakland Bridge which it was found must be built on the site where the cable now lays.

The cable will be spliced and lengthened so as to avoid bridge piers.

Asiatic Wharf, Oakland, is being transformed into the world's largest concrete mixing plant with land and water facilities by Henry J. Kaiser, Inc., sub-contractor, who will supply ready mixed concrete by barges to Transbay Construction Company and Bridge Builders, Inc., for the under water concrete foundations of the entire San Francisco-Oakland Bay Bridge.

This plant will mix a total of 700,000 cubic yards of ready mixed concrete with a daily capacity of 4000 cubic yards of ready mixed concrete.

This elaborate arrangement is made because the specifications of the San Francisco-Oakland Bay Bridge, outlined by Chief Engineer C. H. Purcell, require concrete to be poured 2000 cubic yards a day which creates a new engineering record for speed.

Six barges will operate between Asiatic Wharf and the sites of the bridge piers on the bay.

Healy-Tibbitts Construction Company on the Key Route Mole, is relocating the fresh water pipe line which supplies Yerba Buena Island so that a pier can be sunk for the San Francisco-Oakland Bay Bridge where the pipe line now lays on the floor of the bay.

Bridge Builders, Inc. are constructing storage yard dock facilities and a construction office for their job of erecting the substructures for the San Francisco - Oakland Bay Bridge between Yerba Buena Island and the Alameda County shore.

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CUT CONTRATORS' FEE

Legislation reducing the license renewal fee of California contractors 50 per cent and providing for tightening of the State Contractors' Act was enacted into law May 26th with the approval by Governor James Rolph, Jr., of Assembly Bill No. 780.

Under provisions of the measure, the fee for renewal of licenses for the new fiscal year beginning July 1 was cut from $10 to $5.

This economy measure, it is expected, will result in a saving of more than $115,000 for California's army of 23,000 registered contractors. The measure carried an urgency clause, making it effective immediately upon approval by the Governor.

In addition to providing a reduction in the fee, the measure provides for tightening the provisions of the act and also more stringent regulation of the unscrupulous or unethical fly-by-night contractor or "jerry builder," according to Col. Carlos W. Huntington, Registrar of Contractors and Director of Professional and Vocational Standards. The measure will in no way interfere with the legitimate operations of the honest and reputable contractor, Registrar Huntington said.

The measure retains the present $200 exemption clause, a move to reduce this to $50 having been defeated on the floor of the Senate and Assembly.

CARPETS FOR ELEVATORS

As a means of improving the appearance of elevator cars, and at the same time saving the building owner considerable in cleaning costs, the Otis Elevator Company has announced a new carpeting service, available for all kinds of passenger elevator cars.

Through the use of a seamless carpeting material, the Otis company can furnish attractive floor coverings that will harmonize with the car in color and design.

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Twenty-two colors are available, and they may be used in countless combinations.

The carpets come in two grades, standard and de luxe. The standard grade is three-eighths of an inch in thickness, while the de luxe grade is a half inch thick. Both grades are identical except for the different thicknesses. While there are a number of simple designs available, special patterns can be made up with monograms, addresses and other special features.

Although the use of carpeting in elevators is most desirable from the standpoint of appearance, it is also pointed out that it has several other distinct advantages. One of these is cleaning economy. Carpets are less expensive to keep clean than other forms of floor covering. Vacuum cleaning once or twice a day, and a thorough cleaning twice a year are the only things necessary to keep the elevator so equipped in excellent condition. Scrubbing and frequent mopping of the elevator floor are made unnecessary.

Elevator carpets will also mean a tremendous saving in the cost of cleaning the upper halls and corridors of buildings. Building managers estimate that 70 per cent of the dirt, mud and moisture brought into the building on rainy days is absorbed by the carpets, thus making it easier to keep the building in presentable condition.

In this respect, this company suggests the use of duplicate sets of carpets so that in wet weather they can be changed without interrupting service. While this is advised, it is not necessary, since the carpet has a waterproof backing so that it cannot be damaged by dampness.

For service work a plain carpet can be installed for about twenty per cent less than new rubber tile, while a special design can be installed for about the same price as tile.

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ARCHITECTURAL AND BUILDING PATENTS

WINDOW SASH. George E. Morrow, Enid, Okla.

The object of the invention is to provide an automatic adjusting structure to keep window sashes in working condition at all times and when both sashes are closed and locked, with a sash lock, to form a window that is air, water and dust proof.

BLEACHER CONSTRUCTION. Henry D. Oberdorfer, Newcastle, Ind. Patent assigned to Circle Products Corporation.

The invention relates to a knock down bleacher structure which may be assembled in locations that would ordinarily require a reinforced footing. The device may be knocked down and removed. The claims of the patent cover the details of the structure.

BUILDING. Fernand E. d'Humy, Scarsdale, N. Y. Patent assigned to Ramp Building Corporation.

This invention relates to storage garage buildings of the type having floors located at different levels and connected by ramps over which may be driven under their own power the automobile machines so that they may pass from one floor to another to reach storage space. Objects of the invention are to provide for the construction of the garage from previously fabricated parts adapted to be carried to the building site and set up; to provide a garage, the storage capacity of which may be varied according to the requirements of patronage; and to provide a knock down garage capable of being removed to another site.

ART OF HEAT INSULATION. Adwin H. Wenzel & Maximillian P. Janisch, Milwaukee, Wisconsin.

The invention relates to the art of heat insulation of the walls of buildings. A mat of insulating material is provided. The mat is built up on the wall to be insu-

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lated and is joined with the wall by an adhesive. The material of the mat may comprise paper in irregular fragments or any similar material as corn stalk refuse, flax straw or the like.

DAM. Fred A. Noetzli of Los Angeles County, Calif. Patented May 9, 1933.

Fred A. Noetzli of Los Angeles County, California, has recently invented a dam of the straight gravity or curved type which will be, he claims, less expensive to build and safer than similar dams heretofore constructed. One of the objects of the invention is to provide a construction which will employ long expanses of concrete wherein joints are established at intervals to permit shrinkage and temperature changes without weakening the dam. Unless shrinkage and temperature stresses are taken care of at intervals of about 50 feet, cracks develop which are irregular and which weaken the structure.

Another object of the invention is to provide a novel construction for concrete dams with joints, by widening the joints temporarily by forcing water under pressure into certain sections of the area of a joint, thus widening it by a small amount, and then forcing cement grout into certain other sections of the area of the widened joint. Subsequently, the area of the joint is filled completely with cement grout.

The dam includes a plurality of vertical units extending substantially transversely to the direction of the dam, at least some of said units being divided into portions by upwardly extending contraction joints so as to provide for shrinkage of the concrete, said joints being provided with steps to prevent excessive movements relatively to each other of the portions of the units on opposite sides of said joints, the surface areas of at least some of said steps being arranged approximately in planes of zero shear stress in the dam when it is fully loaded.

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COATING FOR BUILDINGS AND METHOD FOR MAKING SAME. Emil Poegel of Newark, New Jersey. Patented Mar. 14, 1933.

A water-proof coating for buildings has been invented by Emil Poegel of Newark, New Jersey, which comprises a mixture of liver oil, bee's wax, and acid acetic glacial, consisting of one gallon of for instance cod-liver oil to three quarters of a pound of bee's wax and twelve ounces of acid acetic glacial (99% U. S. P. X.).

The mixture is prepared by boiling the liver oil and adding to the same the bee's wax and acid acetic glacial, whereafter the mixture is allowed to cool off and it is then ready for application to buildings of brick, cement, stone, stucco, etc. The coating is applied with brush, spraying machine, or the like.

The coating of said material will restore their natural appearance to said buildings, as saltpeter and similar exudations will disappear. It will also make the buildings water- and fire-proof.

If the coating is to be used for making iron rust-proof, use a mixture of one gallon of cod liver oil with three-quarters of a pound of bee's wax and four ounces of acid acetic glacial.

TILED WALL OR THE LIKE. George D. Haines of Park Ridge, Illinois, Assignor to Porcelain Tile Corp. of Chicago, Ill. Patented May 2, 1933

A novel method of spacing and securing enameled sheet metal tile to a wall has recently been invented. This invention is adapted for use in connection with interior or exterior walls, floors, wainscoting, fire places, tiled surfaces around built-in bath tubs, store counters, and the like.

A base or foundation sheet is nailed to the wall which supports the tile. On the face of this sheet is painted a plurality of guide lines which represent the four edges of the tile when nailed in place. At given intervals the guide lines are marked with dots. The sheet metal enameled tile is provided with inwardly bent tangs which register with the dots. When applying the tile the tangs are placed over the dots and the tile

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driven in the foundation sheet. By this method it is claimed that a worker can accurately set a great many tiles in a minimum amount of time .

AIRCRAFT DEPOT. Archie C. Zimmerman, Los Angeles, Calif.

This invention relates to an aircraft depot for properly directing the passengers to the planes without endangering their lives and to permit the planes to be loaded and unloaded without in any manner interfering with one another so that one plane can be loading or several planes may be loading at the same time, while other planes are unloading and without any interference between the planes. The structure will tend toward fewer accidents, more economical maintenance, relief of anxiety of passengers and will prevent passengers from in any manner contacting with movable parts of the transport plane, such as the propellers.

In brief, the invention comprises a central concourse having radial tunnels extending therefrom. These tunnels are so arranged that transport planes may be brought in close proximity thereto, the transport planes being arranged in tangential relation to the radial tunnels, to the end that each transport plane can approach the tunnel or leave the tunnel at a tangent and thus avoid any plane at a following or adjacent tunnel.

1,901,057—ACOUSTIC CORRECTIVE MATERIAL. Carlisle K. Roos of Wheaton, Illinois, Assignor to U. S. Gypsum Co. of Chicago, Illinois, a corporation of Illinois. Patented Mar. 14, 1933.

An acoustical corrective material, suitable for molding, has recently been invented by Carlisle K. Roos. The formula of the composition is as follows:

	Pounds
Alpha gypsum	2000
Calcium carbonate	57
Aluminum sulphate	89
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Fine wood fiber	44

Water to bring to molding consistency.

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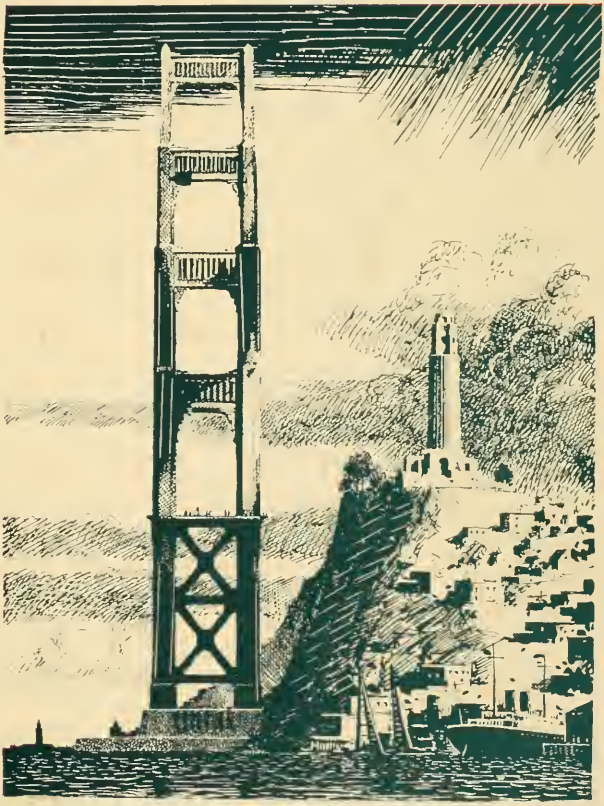

Progress work on the Golden Gate Bridge with late pictures and an original etching by Chesley Bonestell.
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AUGUST 1933

OTIS ELEVATOR COMPANY invites you to visit its elevator machine rooms now on exhibition at the top of each SKYRIDE tower at A Century of Progress, Chicago.

You are also invited to inspect a new type of high-speed escalator now in operation at the Travel and Transport Building at the south end of the Fair. This is its first showing in America.

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In the picture above, showing a part of the business district of Columbus, Ohio, the Ohio State Office Building (right), American Insurance Union Citadel (center), and the Columbus City Jail and City Hall (left) all are equipped with the **JOHNSON** ***Dual System of Automatic Temperature Control.***

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HEAT CONTROL

Thumb Tacks and T-Square

WARNING that California contractors will be required to complete construction projects for the price specified in their contract has been issued by Colonel Carlos W. Huntington, State Registrar of Contractors. A new law aimed to compel contractors to keep within the contract price without the substitution of cheaper materials or inferior workmanship is now in effect in California and rigid enforcement of the measure will be undertaken.

The Registrar has also warned contractors to exercise extreme care in computing bids, in order to protect themselves against a possible loss in the event of an advance in material costs, between the time estimates are obtained for computation purposes and the date the contract is awarded and materials ordered.

Suspension or revocation of the license of a contractor found guilty of violating this new provision of the law is provided in the bill.

The new law is aimed to curb a practice common among unethical contractors in years past of accepting a contract at a figure below cost, and then attempting to secure enough additional money in his charges for changes or extras to give him a profit. The substitution of cheaper material or workmanship usually is found on such jobs.

⁂ ⁂ ⁂

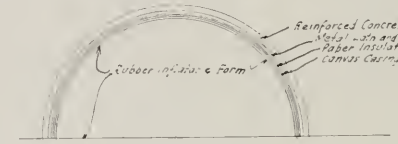
"EXPERIENCE in regions in different parts of the world where earthquakes occur, has shown that wooden frame houses properly constructed have stood up remarkably well," according to Professor Emanuel Fritz, of the Division of Forestry, University of California.

Rigidity of construction is recognized by all architects, engineers, and builders as of paramount importance under these conditions. A significant advance in wood construction methods has just been introduced by the National Committee on Wood Utilization of the Department of Commerce and the Forest Products Laboratory of the Department of Agriculture, through a system known as modern connectors for timber construction. Through the use of rings, discs and plates the customary bolted joints are reinforced, resulting in the strengthening of the bolted joint from four to eight times, and at the same time doubling the rigidity of the structure. This system has already been demonstrated successfully in Europe, where wooden radio towers up to 460 feet in height have been constructed and have withstood heavy wind pressure. Other types of structures such as auditoriums, bridges, warehouses and docks have been erected with these modern connectors, and free spans up to 256 feet have been built.

⁂ ⁂ ⁂

N. W. MOHR, architect, of San Francisco, submits the following interesting article under the caption, "A New Style of Architecture by a New Type of Construction":

In the present epoch, our inventors are air-minded, not only in the fields of transportation but in communication, industry and many others. I feel convinced that the method of aerial construction will be a natural development in harmony with contemporary progress in other arts and sciences.



TYPICAL SECTION

After Plaster shell is set, the Rubber Form is deflated and is removed with comparative ease, to be used over and over again. The insulation paper which prevents binder from adhering to canvas casing is washed away, leaving a finished plaster interior. Models of this type have been built with great success and in spite of its extreme simplicity, a search of the U. S. Patent Office records revealed it is original. N.W. Mohr, Architect

The primary necessities of transportation and comunication being thus idealized, render possible, freedom in horizontal growth. Freed from restricted, rectangular ground divisions, which confine our buildings to angular, artificial forms and which, incidentally, is the chief characteristic of our transitional, modernistic style, there will be every encouragement for buildings to flower forth in great curves, both as to plan and vertical section.

A short illustrated article, published in THE ARCHITECT AND ENGINEER of February 1927, and entitled "The City of Saint Francis Idealized", referred to a new type of construction using an inflatable form method. I now wish to explain that idea further.

The construction will be more speedy and economical than any heretofor used. The chief effect will be a tending to curves in plan and elevation, thereby producing a more pleasing and beautiful general design. Because the inflated form method of construction permits curved buildings to be erected with greater ease, the new architecture will follow the lines of least resistance and is better thus, for after all, art in its most beautiful form, always copies from Nature. If our inventors' ingenuity permits economical combinations of new materials we, as rational human beings, prefer the beautiful.

It is not necessary to mention the many superior qualities in circular forms, as to all other branches of Architecture, such as strength, sanitation, acoustics, etc. Now particularly, a building that will resist horizontal forces as well as other stresses, is most desirable, owing to the recent legislation on earth-quake safeguards.

It is not necessary to mention the many dict that with the development and perfection of our air inventions, that grouping of buildings will tend to decentralize. The city as we know it today will become obsolete, and all the various activities of mankind will be grouped according to importance in separate and naturally, appropriate locations.

⁂ ⁂ ⁂

DURING the first third of the 20th century we have passed through more history than in the hundred—perhaps the thousand years— that preceded it. This so-called depression is probably merely the culmination of the most radical changes man has ever known. Technological development has completely changed the possibility of life.

We are beginning to discover that unemployment is not a temporary state. Partial unemployment is destined to be the lot of most people. And in spite of lessened labor of man, all of us on this North American continent can have more of the things of this world than any but the exceptional ruler had in the past.

We have in our soil more wealth than we can use. We have built machines that can give us infinite leisure. Our problems are different from those that man has known at any time in the past. We need no longer fight want. We must merely learn first how to distribute plenty, and, second, how to make unemployment a blessing instead of a curse by translating our ever increasing leisure into terms of a freer and finer physical and social life.

The first of these, the same distribution of plenty, we must leave to statesmen and economists, if there are any of them left. The second, the building of a richer and finer environment in which to enjoy the profit from our leisure, is the great work that the American architects have before them. The houses and cities of the past will not serve to make this new leisure anything but a curse. Our task is to build a new setting for a new era.

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This Issue

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Frontispiece ANAHEIM CITY PARK, ANAHEIM, CALIFORNIA

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Next Month

"Cuatro Vientos," the magnificent estate of J. Henry Behrens at Santa Barbara, designed by Reginald D. Johnson, Architect, will be described and pictured. Elmer Grey, whose articles on "The Vicissitudes of a Young Architect," created so much interest and which are concluded in this number, has written some notes on "The California Street Art Center of Pasadena," with photographic illustrations and sketches.

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ANAHEIM CITY PARK, ANAHEIM, CALIFORNIA

This view is one of the diagonal entrance paths to the park. Flanked by Cocos plumosa palms, the vista is terminated by a soldiers' memorial fountain.

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AND ENGINEER

AUGUST 1933
VOLUME 114
NUMBER TWO

THE CREATIVE INTEREST IN PARKS

by
GEO. D. HALL
Fellow, A. S. L. A.

THERE is a saying that all work and no play makes Jack a dull boy, and with equal veracity, it could be said that all men are dull unless they can find and experience a personal interest in the life taking place around them. In these days of depression and readjustments, it is important that we seek and try to develop increasing sources of interest available to individuals and for the upbuilding of a fuller community life. Toward accomplishing this purpose, landscape architects and city planners can do much and should be called upon to exert themselves with renewed vigor in the planning and developing of those qualities, in the design of civic improvements, which will promote the fullest possible human interest.

The development of our parks has too frequently failed to provide this ingredient of real human interest, whether expressed in active recreation or passive recreation. Reports and descriptions of large undertakings, whether comprehensive city planning or the integral parts thereof—in which parks play an important part, seldom emphasize the highest aim and purpose of the designer. I refer to those particular qualities of design and execution which are potential factors in arousing the interest of those who observe, while sustaining the interest of those who share in the use and enjoyment of the project.

It is not enough that parks be practically planned or that they have the elements of beauty to appeal to the eye alone. Parks in their design and use should fulfill the high aspirations of the Community for a distinctive park, and should therefore be designed with inspiration and specialized knowledge in order that there may be created a park composition combining scientific planning, landscape beautification and that higher quality of Art which will arouse the keen personal interest of those who see them and enjoy their use.

While many parks have come into existence as the result of gifts of land or political expediency,—and too often parks have just grown up with a haphazard growth of trees and some indefinite scheme of play areas and picnic groves,—it is now recognized that the planning of parks is a science calling for ingenuity, skill, and judgment in the arrangement of diverse recreational activities properly inter-related to each other and so grouped as to give a happy combination to the park as a whole.

It is in the hope that the public may more fully recognize, look for and feel the personal interest that should endear our parks to us, that I would describe the inner working of landscape architects' offices, entrusted with the designing of parks. Seeing the wheels go round — from the inception of the project, through the preparation of plans to the time that they are carried out on the ground—is a lengthy and somewhat involved process not generally understood. Let us first consider the larger wheels in this process:

The first step, preliminary to the planning of any park (and in this article, I shall consider primarily the City Recreation Park of some 20 to 30 acres) is a consultation with city representatives; investigation of the contemplated park site; discussion as to the various recreational activities to be planned for; and directions as to the preparation of a topographical survey supplying adequate information as to the shape of the ground, the location of existing trees and any other natural features that might affect the park scheme. This topographical survey is usually prepared in the office of the City Engineer, and it is important that it be accurately drawn, since such a survey becomes the basis of the landscape plans involving future grade elevations and the location of various features in the plan of development.

The second step, taken after receipt of the topographical survey and a tabulation of park activities, recreational factors and buildings required in the park, is the preparation of a General Plan and Report, setting forth the tentative scheme of design that seems best fitted to include all the park factors with consideration for their functional qualities and relationships. This plan indicates the extent and suggested location of such massed planting as may properly screen the park from the outside where a degree of privacy is desired, and indicates such planting as is advisable to enframe distinct areas as units of the park composition, while keeping in mind the fact that a properly planted park should become a composition of beauty, and thereby add to the property values of the entire neighborhood. A further general principle of park design calls for the location of all noisy games within the central area or in such locations as to give every consideration to the residences that might front upon the park. In other words, properly designed and planted parks should invariably increase the value of property throughout the entire neighborhood.

The third step in the procedure calls for conferences with the representatives of the city in order that the tentative plans may be thoroughly understood and, if necessary, revised to meet approval. At this time, approximate estimates of cost are discussed, and the matter of accommodations for the users of the park in its various departments is carefully entered into and checked along with other elements of practical necessity. Maintenance and upkeep, taken into consideration with the "pay as you play" factor, is frequently of great importance in analyzing the park problem. It is probable that further conferences between the landscape architects and city authorities may be required before the comprehensive plan and program can be finally evolved.

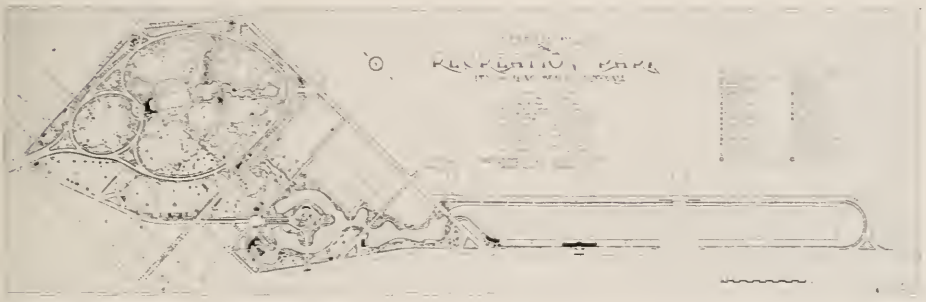
The fourth step is usually to present the approved plan and the report in a public meeting in which the Chamber of Commerce, service clubs, improvement associations, the realty board and other interested persons may be fully informed as to the contemplated park program. It is frequently necessary or advisable to arouse an even greater public interest for the contemplated park, and generally, the landscape architects are called upon for articles setting forth the need of parks as elements in the city plan and leading up to the special reasons and advantages for the particular park under consideration. Such articles are frequently published in the daily press or other publications which reach the property owners of the city.

The above four steps are the *larger wheels* that go around in park planning procedure, but there are smaller wheels which are not seen so clearly and yet play a part of the utmost importance. The function of these smaller wheels is the inspirational conception of the designers of what might and should be done with the raw land

to create thereon, through the art of design and the use of landscape materials, a park of distinctive merit which shall fulfill its highest use, while developing the greatest human interest appeal to the people.

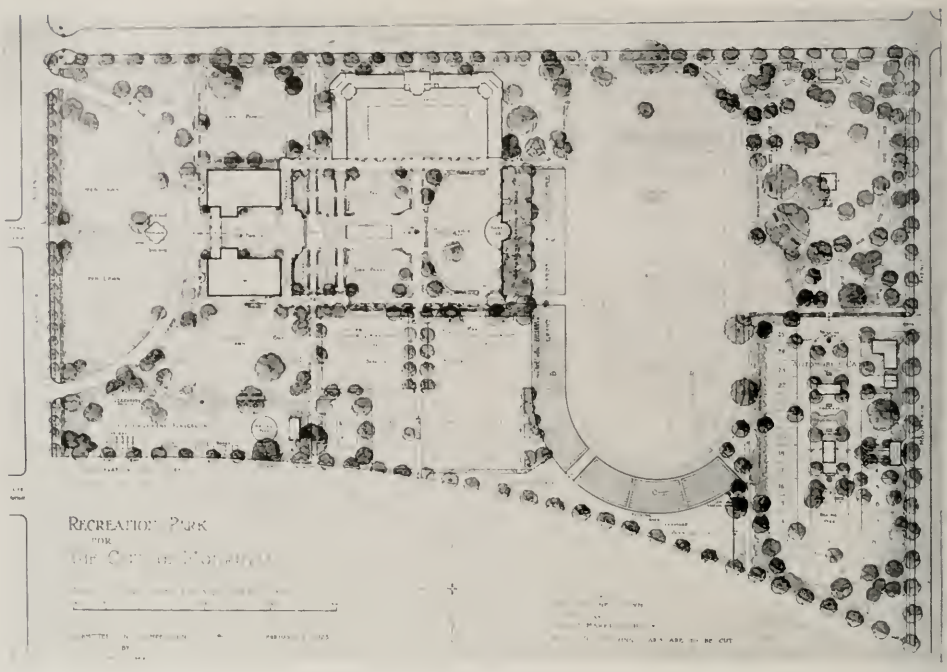
Imagination, sympathetic understanding, technical knowledge of the problem presented, vision controlled by practical consideration of maintenance expense, are some of the smaller wheels that must rotate in the brains of truly successful park designers. Their contributions are as essential in raising park designs above the commonplace as are the chemical reactions of yeast in the making and raising of a successful loaf of bread.

Setting aside the usual description of park plans as to the number and construction details of tennis courts, swimming pools, auditoriums, pergolas, baseball diamonds, or the length of drives, walks, flower borders and lawns—I would ask my readers to take all this for granted and to seek out in park plans the INTENT AND HUMAN INTEREST which should underly the planning of parks. There are, of course, many kinds of parks and each type has definite characteristics while each separate park should have a distinctive individuality of its own. It is decidedly worth while to study and analyze park plans and parks, themselves, from the point of view of human interest; and by so doing, I believe each one of us will better appreciate the aims and purposes of park design and will find, within himself, a responsive interest that up to this time had never been felt.



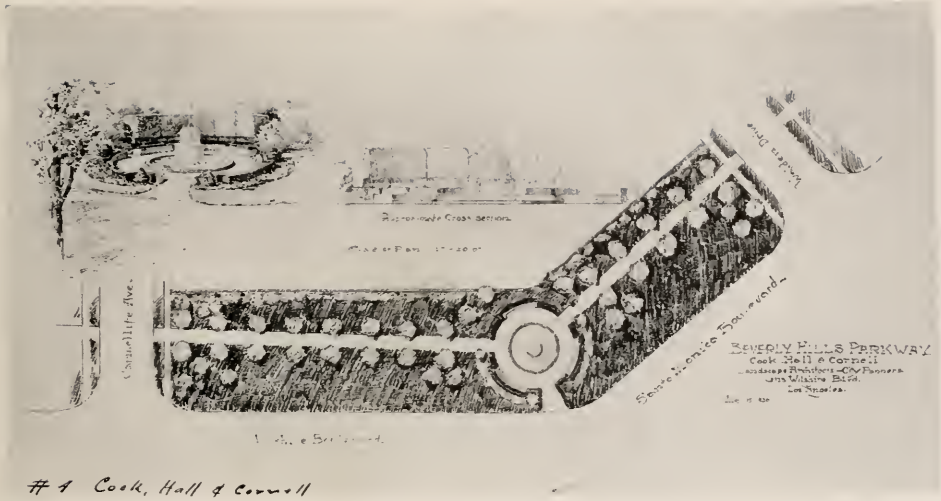
RECREATION PARK, LONG BEACH, CALIFORNIA

This park includes more than four hundred acres of undulating land, situated close to the seashore. Note the striking individuality of plan in the large acreage devoted to bathing and boating; in the lagoon systems of sea water, controlled by tide gates; in the music court, located on a peninsula; in the marine aquarium, zoo, picnic groves, fresh-water gardens and play space for active recreation; in the system of driveways encircling a series of ornamental park sections; and in the community house. Located in a residential area, the borders of the park are planned with consideration for surrounding property interests.



RECREATION PARK, MONROVIA, CALIFORNIA

Twenty-three acres of land planned to provide maximum recreation facilities, while still preserving a large number of age-old live oaks. This plan won first place in a design competition for this park, as being well organized best to solve the particular problems of the site, affording maximum use facilities and presenting well organized composition. Though formal in plan, such seeming symmetry is broken by the numerous live oaks which lend much picturesqueness to the actual development.



#1 Cook, Hall & Cornell

BEVERLY HILLS PARKWAY, BEVERLY HILLS, CALIFORNIA

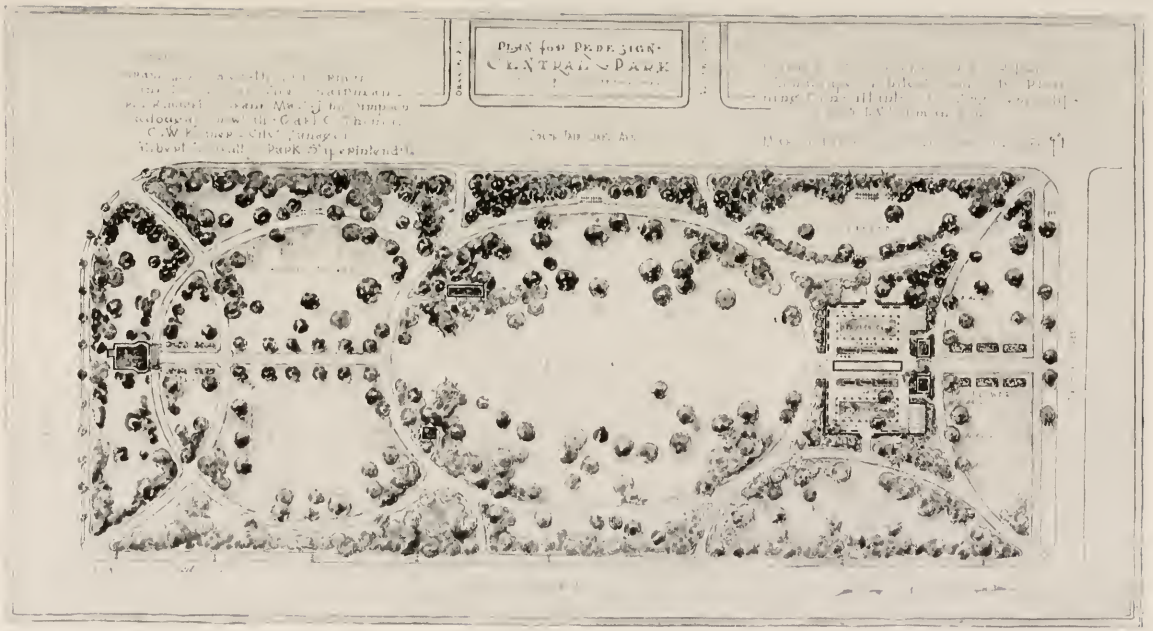
The city of Beverly Hills voted a bond issue of $720,000.00 to acquire and develop a narrow parkway, extending two miles through the center of the city, to serve as a buffer between residential property and less attractive districts. The plan illustratees the treatment of a single block and includes a fountain pool.

BEVERLY HILLS WATER GARDEN, BEVERLY HILLS, CALIFORNIA

This large lily pool is the central unit of three small parks that occupy a focal point in the original subdivision of the city and are now in the center of the parkway, illustrated above.

ANAHEIM CITY PARK, ANAHEIM, CALIFORNIA

This perspective drawing illustrates the design of an intensive park development of twenty acres, within the residential district, planned to provide active recreation for numbers of people. Landscape values have been recognized and created by several acres of lily pools and rock gardens, adequate border plantations, informal vistas into the park, axial views terminated by architectural features and generous lawn spaces. Recreation needs have been met by a large swimming pool, a generous athletic field and a music court with stage and seating amphitheater. A set-back curb permits ample parking of automobiles around the perimiter of the park.



CENTRAL PARK, PASADENA, CALIFORNIA

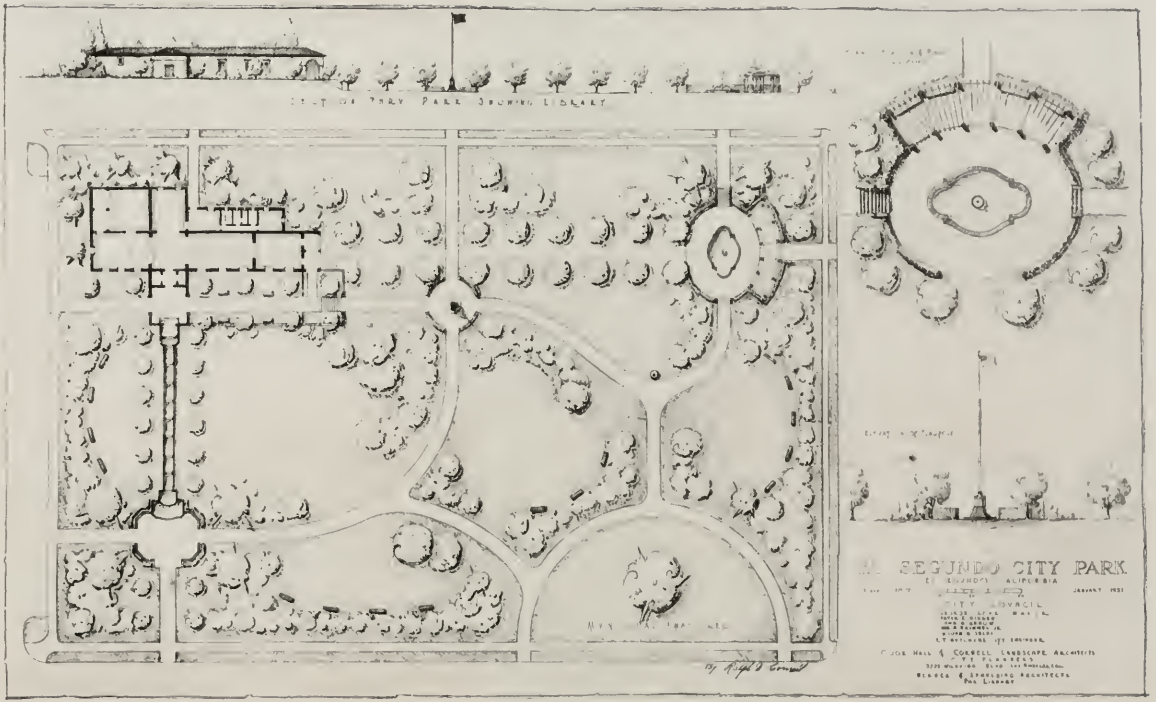
This plan provides for the re-design of a six acre park in which were many old trees. While providing for some active recreation and for an aviary it is, mainly, a landscape park for passive pleasure. It presents an unusual combination of formality in plan and informality in appearance, and is capable of very intensive use such as its location, near the heart of a city might demand.

TORREY PINES PRESERVE, SAN DIEGO COUNTY, CALIFORNIA

Torrey Pines Preserve represents a spot of very individualistic, striking and picturesque land forms and tree growth—such as can be found nowhere else. To make it accessible for controlled and regulated use of the public, a lodge and keeper's house has been built, trails and bridle paths constructed and automobile parking spaces provided. This plan has served as an improvement map to assist and guide the work of carrying forward development in an intelligent and orderly way.

TORREY PINES PRESERVE, SAN DIEGO COUNTY, CALIFORNIA

One of many of the arroyos that lead down to the sea cliffs, and one that well illustrates the picturesque nature of the topography and erosion. The Torrey Pine, exceedingly rare in a natural state, exists indigenously in only one other spot on the face of the earth.



EL SEGUNDO CITY PARK, EL SEGUNDO, CALIFORNIA

Perhaps the only park in California originally planned to accommodate a municipal Christmas-tree. Primarily a library park it has been designed with consideration for such use. A cascade falls away from the entrance to the building, while another vista leads from the exhibition room, down a tree-lined mall to a terminus of pool and pergola.

COLOR, YES—BUT ARCHITECTURE?

A CENTURY OF PROGRESS CRITICISM

by
HUGH M. G. GORDEN
in Monthly Bulletin,
Illinois Society of Architects

IN expositions, international or of lesser scope, architecture has generally played a stellar part. At A Century of Progress the architects must be content with a role outside of the spotlight for the wielders of the spotlights have themselves jumped down from their inconspicuous places back of the flies and taken the center of the stage where they bask in the full glory of their own glamorous creation of light and color.

The night effects of color and radiance are successful, beautiful and new. Whoever sees the Fair at night will never forget it, for nothing in his experience will have prepared him for a picture so thrilling and so beautiful.

Whoever has approached one of our stereotyped smaller cities at night, particularly if it be located upon a river or lake where the reflection of its lights is multiplied on water, has received an impression of beauty, size and importance that is rarely borne out in the sober light of day. Gas stations, bridges, streets and buildings are brilliantly indicated in starry strings of light varying in sizes and colors against the blackness of the night which mercifully conceals a multitude of tawdry and commonplace details.

There is, truly, a glamour to the night which fades in the light of day.

In the building of the Fair, the principle was adopted that no lighting elements should be directly visible—all must be enclosed in translucent covering or reflected from illuminated surfaces such as walls, ceilings, cornices, etc.

The result is highly satisfactory, restful to tired eyes and colorful.

A natural outcome of this arrangement has been the generous use of gas-filled tube lighting concealed behind various forms of reflecting troughs and casting their soft colored brilliance upon the surfaces designed to reflect it.

No spot-lights, tube lights or other form of lighting is seen in the raw. All are indirect and consequently restful. Large surfaces, as well as small, are lighted in this manner and the varying colors, the prodigal quantity of light used with ingenious and frequently splendid effect, create a spectacle which is unquestionably new and not to be forgotten by one who has seen it.

To see the exhibits, visit the Fair by day and to see the spectacle, whether of light or architecture, visit it by night for in this case as in the case of the stereotyped cities, night casts its glamour.

In the use of color on the exteriors of the Fair buildings a more qualified verdict is necessary.

When an architect designs a building, he creates masses, rhythms, lines and textures which together proclaim his design.

It follows, obviously enough, that the color treatment should supplement the lines and rhythms so established in his design.

By a policy as far reaching as that which governed the lighting of the Fair, the painting of the buildings was taken out of the hands of its architects and entrusted to a Director of Color.

This, of course, has resulted in a harmony that could not have been possible with the employment of a different palette by each architect but its effect has been in one important sense a disaster. For the Director of Color has seen the Fair only as a color design and not as an architectural one. Thus many buildings have been literally broken to bits by the way the different masses of color have been allocated. A case in point is the Hall of Science of which Mr. Paul Cret is the architect. One of the largest, it is also the one building of the Fair that has well balanced, rhythmical mass and good scale. Until it was finally painted in its present violent colors, its proportions and arrangement were clearly evident and agreeable. But the hand of the color man has smashed it into several parts until its magnitude and, indeed, its entire architectural meaning is destroyed.

Its neighbor, the General Exhibits Building, which never had much to recommend it as an architectural composition is greatly improved by its color treatment, probably because the many small parts of which it is composed have been enriched by the color while in the case of the Hall of Science, its really broad and generous scheme has been obliterated by separating its different parts in color treatment and giving an effect of a number of small buildings. A photograph of this building, taken a month before the opening and one taken afterwards, makes this sufficiently clear.

The States Building with its restless outline is less important for while "in the white" it had little coherence, it has no more now in its highly colored finished state.

The Electrical Building which has for its main plan a sweeping convex arc open on its front toward the lagoon has an architectural fault in composition that is repeated in its color treatment. The sweeping curve of the plan is excellent and promised to be a fine composition but the sweep of the curve has been broken into seven too equal parts and this has been repeated in the color treatment. Inasmuch as these breaks are arbitrary and could as well have been omitted in favor of a single repeating motif that would bring out the full significance of the arc, they are to be regretted.

Of sculpture the Fair is practically barren; but not quite, for on the Electrical Building are some huge surfaces developed in low relief of which the less said the better. The building would have been better without them except for an unintentional touch of sculptural humor which appears on the two pylons of the water front of the building. On these are two male figures which evidently illustrate the folly of picking up a live wire.

The Social Science Building has some sculptural decoration on its north front that can be endured if not admired and a large relief on its western front, or on the western front of the Electrical Building which adjoins it, that cannot be endured at all. Together these reliefs have been described by an eminent sculptor as "dirty work."

The Hall of Science is more fortunate in possessing on its north approach a single colossal figure by John Storrs, representing I know not what, but vigorous and clean in design. It is surrounded by a niche of vertical fluted surfaces, the entire niche being painted a prodigious deep blue against which the pure white of the statue stands out with such startling sharpness that it resembles those familiar paper portraits that are called silhouettes and with the same amount of modelling.

Here the Director of Color has seriously marred the sculpture where it is good. Where it is not so good, as on the Electrical and Social Science Building, he has failed to obliterate it as he so mercifully did on the front of the Administration Building.

Of the latter and the Travel and Transport Building, it can only be said that they have no architectural charm of mass or composition. They are of proportions essentially ugly and no amount of color decoration could possibly save them.

The Travel and Transport Building is certainly better than it was in its earlier state but that faint praise is all that I can give to the efforts of the color man in this case.

There are many other buildings, some large and others smaller and of less importance and of these latter several have considerable charm and deserve a more detailed review than is possible in this short appraisal.

A word is necessary as to the general quality of the exterior color scheme. The colors used range from pure white through the strongest blues, to lemon-yellow, sienna and red, both light and dark, with a liberal use of black. In general no delicate or half-way tones are employed and consequently delicacy or sublety of effect has been ignored.

The gorgeous and soul-filling quality of magnificent color is not quite achieved but the total effect of color is gay and arresting and that is as it should be in a Fair which is designed to catch and hold the attention much as a billboard does and not by its architectural interest.

On the inside of the buildings the effects are generally excellent. Here artificial lighting only is used (there are no exterior windows), again with indirect application, and many of the booths and exhibits are fine indeed with very few that are not so.

Of course, color is always a matter of individual choice and my principal criticism of the general scheme is that it is tropical and out of key with the cool greyness of the Chicago climate, which is northern.

The Mediterranean blue of sky and water for which this palette of color would be admirably suited is not to be found in Lake Michigan and Northern Illinois.

A palette of lighter and higher colors, employing more light blues and greens could have been used without loss of vividness and in better harmony with our pale blue of white skies and the cool green of Lake Michigan.

The colors used, dark red, bright red, the strongest blues and black (too much black) with lemon yellow and some large areas of strong dark yellow, are too "hot" to please me.

But perhaps I am one of those who prefer blue to red.

Of the significance of the Fair as an exhibition of a "Century of Progress," it is not my purpose to speak except to say that it is crammed with interest for the serious as well as the more frivolous and no one should miss it, be he seeking instrucion or merely entertainment.

The night effects of color and light alone make an outstanding spectacle which brings me back to the point I started from.

In theatrical parlance the show should be billed about as follows:

"A Century of Progress"
The World's Greatest Spectacle,
Featuring William Lightman
Assisted by James Colorboy,

and a distinguished company of guards, landscapers, ticket takers and architects.

SOUTH FACADE, MISSION OF SANTA BARBARA, CALIFORNIA
FROM AN ETCHING BY HENRY CHAPMAN FORD

THE JIG-SAW OF THE EIGHTIES

by
GORDON L. PERSKE

The house described in this article is one of several famous landmarks in Eureka, California. The writer says he found the house intensely fascinating, and offers the suggestion that the place might prove a lure to others interested in architecture, particularly those who have followed the history and development of residence design in this country.

The accompanying sketches were made with a fountain pen while sitting in a car. Although somewhat roughly done, they will serve to give the reader a very comprehensive idea of the architecture of the place.

A LUMBER BARON'S "BARONIAL HALL," EUREKA, CALIFORNIA

LET us drop the modern jig-saw for awhile and go back some fifty years to another one—a lumber baron's "baronial hall" — in the town of Eureka, California — a house built in that era of a jig-sawyers paradise in 1885. And what a good time the sawyer must have had with this architectural calamity!

"What a horrible misshapen mass, and how busy it is with detail." is our first comment. We long for a quiet place to rest our eyes. If we only could! Certainly in no place has a greater degree of harmony and rest been more desirable. Its many projections — turrets, cupolas; domerwindows, balconies, and bay windows; gables, its tower, and profusion of roof lines and unnecessary over-hangs add to the general confusion of its wealth of detail. Even the height is way out of proportion—the three principal stories equaling about five of our present day floors. It is given still further height by steep Mansard roofs and by raising the first floor some five feet off the ground—the customary practice of a few years ago. This enormous house, almost entirely of wood, truly represents the acme of the taste—or perhaps pathetic lack of taste, — of the eighties, but regardless of

whether one likes it or not, this mansion was to the Victorian architecture in one respect what the Parthenon was to Grecian Architecture,—that is, a culmination of all preceding efforts in its style, but I do not mean to imply that this house is as great

MAIN ENTRANCE TO FIFTY YEAR OLD EUREKA MANSION

a monument as the other. It not only is built of wood rather than the more lasting marble, but it also lacks the finesse and refinement in its finished conception that is found in the Parthenon. However good or bad, I think this small town mansion worthy of consideration.

We are especially fortunate in having this example as it is one of the very few maintained in its original grandeur, even to the well-cared-for grounds. While we can find any number of these pompous old homes, hardly any are in good repair today, and when we see them in a sadly dilapidated condition it is hard to picture them in their own settings of formality and lavish display. And to repeat we are fortunate as this is a superb example of the Victorian mode of expression.

Here we find the stiff cast iron fence still intact, forbiding the mere passer-by from trespassing on the grounds. The lawns, no doubt due to this guard, are green and velvety. The center plot is incised with a parterre of star pattern, ovals, and triangles, and in the middle of this plot rises a monkey tree. Then to the side we see grand old trees with circles of finely raked dirt around their bases. To complete the picture only one thing is needed—and iron deer or an iron dog set in the lawn, but with so much else one hardly misses it.

Now we enter the grounds by a curving drive leading to a side entrance on the porch or by a long straight walk leading up to the main entrance. If we take the walk, we see on the porch roof over the entrance two very baroque rams' horns bulging out, richly carved on the under side, with a hereldic shield at their junction. Surmounting these horns and serving as a rail is a festive iron grill done in a semi-realistic manner, with the rest of the porch roof surounded by a simple iron rail. While the design is not unique it is really quite fine in itself, although mayhap only in contrast with the other details of the house. Were it executed in wrought iron for a stair-rail, I imagine it would be quite chaste and artistic. It is composed of verticals with "S's" filled the spaces between, but this nice simple iron rail is interrupted over each column supporting the porch roof by a hideous "muchly turned" wooden post. The porch itself, which is to the left of the main entrance and continues around the side is guarded by a typical heavy wood balustrade. Then on this rest the columns supporting the porch roof. What words can describe them? They are really quite horrible. The best way to represent them in a few words is to say that they look like fountains more than columns, so close are they in resemblance that we would hardly be surprised to see water flow over the edges of the apparent basins. The capital is a hybrid of a tired Ionic and a Corinthian gone on a spree; the shaft, which more nearly approximates a baluster than anything else, is cut in two by what looks like this fountain bowl mentioned above.

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The "bowl' is decorated around the edges with the egg and dart motiff, but with the darts left out. The base seems inadequate to support all the decoration, and although the simplest of the three parts, leaves a lot to be desired, due principally to its combination of curves; for instance, the chief forms are two scotias placed one on top of the other.

Centered with the entrance and on a line with the back of the porch, rises what was certainly at that time the criterion of social solidity in a community—a tower. Compared with the rest of the house, the tower up to the fifth story is very simple in its several parts. From there on it appears top heavy swelling out in a balcony with a very ornate railing. Moreover the balcony is supported by elaborate brackets.

On up above the sixth story of the tower we see more brackets, which support the roof so designed as to droop at each corner. Naturally this saggy appearance makes us wonder if the brackets were perhaps not strong enough and so did a little slipping. The weak effect is not helped at all by a dormer in the roof with curved roof lines and filled with an ornate fan motiff. The tall pointed roof of the tower terminates in an enormous wooden ball.

Being a little dizzy from the height, but I am sure not as tired as if we had climbed all the stairs to get to the top of the tower, we shall let our gaze rest near the earth again, on the other side of the front entrance. Here is a three story projection to the front facade of the house, which is worthy of interest. On the first floor is the sumptuous parlor window which is protected by a small roof, kept in place by, for lack of a better name, fan shaped brackets. These extend the whole height of the story. In fact these same brackets figure quite prominently in many parts of the house,—to support eves, balconies, and the inside of the porch roof—and are interesting features.

It will be well to digress for a few lines and give a short description of them here. They are solid in appearance, though I imagine they are false casings holding the real structural timbers. The sides are decorated in a petal motiff and the curved ends with overlapping discs. It is interesting to note the latter is the same as the much used modern decoration. Now to return again to our description of this large projection on the front of the house. Above this parlor window, and on the second

DETAIL OF PORCH COLUMN

floor, is a wooden arched window flanked by quarter cylinders which are fluted and have horizontal bands. On the top of each quarter cylinder and shooting out into the air is one of the oddest decorations to be seen. It resembles more than words can picture a series of cartwheels — possibly four or five—on an axle. Then resting on the "cartwheels" are extremely heavy brackets which support a small overhanging balcony. The ornate balustrade is crowned by two flamboyant vases. Still more brackets support the gable end of the roof on the third story of this extension on the front facade. The actual glass window of this third floor is set some five or six feet back of the gable end.

Another feature that should be mentioned is a clumsy brick chimney, which is on the farside of the projection. This chimney has several large tile insets, in the center part. This part then spreads out below these insets into a circle with a tile inset on one side, and on the other into a brick stepped effect. The part of the chimney actually needed for the flue is possibly only half of its total width.

Several other interesting little decorations that also show excessive embellishment of the house should be mentioned. For example, in the few places where there is a blank wall, the shingles are laid in waved lines, not only on the main facade but on the sides as well. And again even the unimportant windows are decorated with arched mouldings. The semi-circle resulting is not left open but has a half rosette, choking the space. A large bulky moulding runs around the second story at about the middle line of the windows, and where these windows interrupt it, this ornamental strip breaks out still further in an over decorated square. And as if all this gim-crackery we have talked about were not enough, the roof is also decorated. These last adornments lie in front of several of the dormer windows and take the form of scrolls that have unfolded themselves on the roof.

Now that we have given a glance to some of the more interesting or bizarre parts of our "jig-saw" let us look at the complete picture of it.

The first impression of this pale sea green house with its darker green trimmings is that it is simply protruding all over. How can it contain everything? And yet I have been reliably informed that the amount of gew-gaws already taken off the house is enough to furnish a complete new one. But as we look at it now it seems that the inconceivable amount of detail is placed in every possible spot. The bulging appearance is due not only to all this riot of decoration, but also to the form of a great deal of it; for example — the porch entrance, porch columns, arched windows, the long curved eve supports, the quarter cylinders, and the so called "cartwheels" which rest on them. Also does the tower comply with this impression—that the house is ready to burst. The three stories of the house seem to press the tower in, but once above these three stories, the tower shoots out and expands like a sky-rocket, as if glad to be free from the confines of half its length.

Then we begin to notice that in all this wealth of detail so very little of it is repeated in more than one place. There are, for example, at least four distinct types of columns to be seen on the front facade; every window is different—one in the tower being composed of hundreds of pieces of multicolored glass,—and the detail on each gable end is varied,—and there are a goodly number of them. Just to make a count of the profusion of different designs of the details would be an almost endless task.

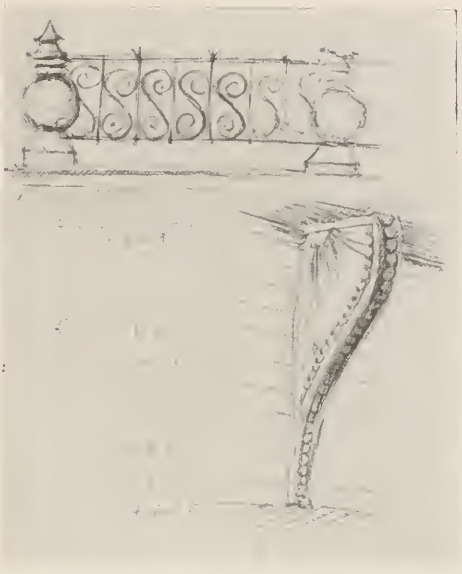
So thus this spectacular relic of a bygone age stands alone on the edge of the bay, proudly ostentatious and arrogant in its expression of atrocious architecture. It rears its massiveness high above any of its neighbors, even dominating the mill close by it. The sloping ground adds still further height. However it must be admitted that the house has all it needs, with its first floor high off the ground and then three stories each of ample height, its generous roof and its tower equaling about seven stories in height. We have the feeling that there is such waste and extravange with nothing much gained. But I wonder if this impression is true. When this house was built, the manner of living was entirely different from what it is today, and I rather

think this house answered the purpose of that time.

Now living is different and the palatial in scale is passing away. But then was the age when many large fortunes were getting a good beginning, and the principal idea was not who had the most culture and refinement, but to see who could make the biggest show.

This magnificent and capacious residence was built for ostentation and showy display. The object, I am sure, was reached; so we can give it full credit of success in this respect. It seems so proud of being in grandiose bad taste, and lacks even the soothing grace of naivete. We can imagine when looking at it, the gluttonous, formal, and extravagant affairs given there. It is not a house to have friends "just drop in." It is much too impressive in reality or pretense for that. But even with all its hauteur and grandeur there is nevertheless a feeling of romance typical of the Victorians. Possibly it is just that the house is old and so has gained an atmosphere, or maybe it is the tower that calls to our minds stories princesses, or again perhaps it is its many corners and secluded spots. And then it may be the fanciful treatment of its detail. Baroque or roccoco usually gives architecture a feeling of romance. Whatever the reason this romantic atmosphere is almost over powering. In spite of its deviations and excesses the more we look at it the more we like it and feel that we want to know it better. Regardless of that impression it lacks something from being a great building. And one thing is — is it architecture?

Buildings to be architecture should have a certain feeling for proportions not only in height and width, and voids and wall, but in their decorated and plain surfaces. I think we feel that even with all its charm it lacks all of these. All the ornamentation is without the slightest regard to any logical relation between form and idea. However we do not realize what this baroque



DETAILS OF IRON RAIL AND BRACKET

covers until we go around to the rear. Not a thing there is superfluous, and yet it certainly is not beautiful. So it is not just the detail that mars it. In fact the detail helps, —for in the rear, there are no emotional feelings at all, while the front facade does affect one. Another thing I feel is missing here is the fact that a home should fit into its surroundings. But this one does not. There is no settling into the landscape here. It was erected to stand out and it does..

And so I suppose while we must conclude that this mansion is not architecture in the best sense of the word, it does have a certain air of dignity and pride, and it is interesting. If we laugh at it—let us remember that at some time in the future a great deal of what we build today will be laughed at, and furthermore perhaps at some later date many of our modern buildings will not have the lasting charm that this "Jig-Saw of the Eighties" has.

MISSION SAN JUAN CAPISTRANO
FROM AN ETCHING BY HENRY CHAPMAN FORD

VICISSITUDES OF A YOUNG ARCHITECT

by

ELMER GREY, F. A. I. A.

Tenth and Concluding Installment of Personal Sketches Reminiscent of the Early Architectural Practice of the Author

WHEN I started these memoirs one of the thoughts I had in mind was that a recital of some of the mistakes I have made in life, resulting in ill-health and consequent business set-backs, might serve as a deterrent to others of like temperament and constitution from making similar ones. I also felt that my present mature years and established good health warranted offering some advice on the subject.

In previous numbers I have touched upon this point somewhat and now will dwell upon it further. It used to be considered that illness was more or less a matter of poor luck; that the law of cause and effect which is definitely operative in other affairs of the world had not much to do with it—a man was either fortunate or unfortunate in such a matter: that was all there was about it.

But now that is being largely changed. "Events in nature are controlled by a much stricter and more closely binding law than we suspect," says Albert Einstein. The only reason we have not more often realized it being that we have not taken in the whole picture. Physicists also now tell us that behind the processes of law and order in nature (which it is reasonable to suppose govern our physical machinery also) there is in all probability an Intelligence or Mind, that you cannot have law without having Mind back of it; while metaphysicians tell us that this Mind must be an all-pervading One and our own minds necessarily parts of It. The obvious inference is of course that our mental processes play a far more important part in determining our physical welfare than hitherto has been supposed.

The particular application of these theories to architects may be illustrated by an analogy. In the last Tournament of Roses parade at Pasadena there were six big Percheron horses from the Kellogg stock farm. They were magnificent animals, slow of movement but powerful. There were also to be seen there horses of just the opposite type — race-horses which, even when they were walking slowly along, were high-strung and nervous. Now some architects are like Percherons and others like race-horses! To the former I have nothing to say, but to the latter I venture some advice.

Those who are especially proficient at tasks requiring creative imagination are apt to be more sensitive than others and consequently more easily thrown off their mental balance—which in its turn effects their physical balance. Architects of artistic inclination, who are also practical, have

peculiarly trying demands placed upon them in this respect: for they are called upon to exercise the ready fancy of the artist, the practicality of the constructionist and the responsibility of the business man, and have all these three different one must be born with, it can be acquired. The way it is done is a longer story and cannot be dwelt upon here to any extent, but a hint may be derived by reverting back to the physicist's and metaphysician's statements that behind the Universe of law and

RESIDENCE OF ELMER GREY, PASADENA, CALIFORNIA
Elmer Grey, Architect

qualities on tap constantly. I am convinced that many sensitive young architects have been stricken with illness at times, simply because their mental makeups go awry under that kind of strain and their physical machinery is thrown out of order in consequence. Furthermore, many such, I believe, do not know the cause of their trouble.

Now the great panacea for such temperaments is the deliberate, conscious cultivation of poise—for that is not a quality order is an all-inclusive Intelligence and that the mentality of each of us is a part of It. This should tell us that there is not the need we so often feel there is, of becoming perturbed over untoward events: and also that if we would keep in tune with an orderly Universe we must keep our thoughts orderly—and that we can do if we will.

The training must start before the strain comes. We are all of us constantly open to suggestion from outside influences which

are met with in the ordinary course of our lives; frequently these are excitant, and when they are so we should not allow them to race our mental motors so to speak, but should ourselves manage the control of our thought processes and keep them steady. Ordinarily our wills are looked upon merely as faculties for the direction of thought habits which are fixed; but they may also be enrolled to perform a more vital office, that of installing entirely new habits of thought and fixing them. If, over a long period of time, we have had a habit of becoming unduly excited over matters which most people take calmly, it may require time to correct the fault; but a short period deliberately set aside each day for the purpose of cultivating an opposite tendency, in other words of cultivating poise, ought in the course of a few months to work wonders. The idea is simply the musician's plan of daily finger exercises applied to the acquirement of new and more efficient habits of thought.

My further advice to young architects is this: — If you cannot at once accomplish that to which you aspire try to make the situation in which you find yourself as interesting and profitable as possible. There are compensations to be found in all situations of life, and some of them are very satisfactory and interesting. My own present situation might be cited as an example. For there may be some who would say that I am not competent to give advice on the subject of professional success; that the limited nature of my architectural practice does not warrant it. But perhaps we are not talking about the same thing.

To any of bigger names and larger bank accounts who may feel that way I throw down a challenge: — Alongside of their busy offices with hired designers and many draftsmen whose work they must watch, I place my more modest workshop wherein I myself prepare the initial sketches, experience the joy of creating, and have at times feeling synchronizes with my own. Against three or four helpers whose sympathetic their busy telephones, often busy at night, I place my quiet home fireside. Against their rush days when draftsmen are asked to work overtime and food is caught hastily from a lunch counter, I match my leisure time in the hills in company with a sketching kit, the murmur of a mountain brook and the melody of birds.

Many people suppose that an architect's pleasure in his work is in direct proportion to the number of commissions he receives; and because, they reason, each piece of work is, when finished, a monument upon which he may look as his own. Not to any great extent is that true. The joy of all kinds of artistic work does not lie principally in the finished product, but chiefly in the creative process. That which furnishes the chief delight is the wonderful thrill one feels when the creative impulse is at the full surge of its flow. By the time a building is completed this impulse has spent itself, vexations of construction may have intervened and the pleasure in the result is largely confined to the public. Therefore, busier friends of mine, although I admire your larger business enterprise, I envy you not, and the joys that have been mine with lesser tasks through a more quiet and varied life are my excuse for saying so. Besides, I believe there is much truth in what Lyman Abbott once said:—"We are not here to do things, we are here to grow by doing things. Our trials are to ascertain whether today we are ready for a new lesson tomorrow."

THE END

EFFECT OF THE DEPRESSION ON CITY BUILDING

by
JOHN E. SURRATT

THE depression will ultimately prove to be an untold blessing to the cause of city building for our more progressive communities. I do not mean to say that the depression will help city building in every community. Some communities will never recover from the depression. Confronting these will be long years of debt-paying without the vision, the courage, or the determination to seek out and then to accept the new methods that must be adopted by the city which succeeds under the new conditions ushered in with the depression. But the alert cities can profit from this period.

A New Age in City Building

Let us admit at the beginning that we are entering into a new age in city building. The popular city-building methods that were in vogue back in the "twenties" will fail to go over in the "thirties" and "big city builder" was also known as the "booster" or the "promoter." He was interested first, last, and all the time in the big things. He wanted his city to be the biggest, its streets the widest, its buildings the tallest, and its bond issues the largest. He was for bigness. Quality was of secondary consideration.

From a paper presented at the Twentieth Annual Meeting of the League of Texas Municipalities, and published in *City Planning*.

Contrasted with this popular conception of the "big city builder" of the past, the city builder of the future will be the man who does the most to conserve public funds and who does the most to protect and then to develop the natural advantages and the native charm and beauty of the town and country.

Back in the boosting days, cities, counties, and districts were vying with each other in voting bonds. The same wild reckless spending spree which hit the public official. The difference was that the citizen was spending his own money while the official was spending forty-year bond money, and therefore was much freer in the spending of public money than was the citizen in spending his own money.

Then the depression came and saved us. To be sure, this wild spree of spending public funds would have stopped of itself sooner or later. But in the meantime many cities, towns, and counties would have faced bankruptcy but for the merciful intervention of the depression. We shall never know the number of cities and counties which were saved from self-destruction by the coming of the depression.

Lessons Taught by the Depression

What are we going to do about it? Kind Providence sent the depression and saved many cities and counties. Can we now expect Providence to dig out the lessons

which we should learn from the depression and apply them to ourselves. While each community must solve its own problems, yet there are some broad fundamental facts true alike for the smallest town or largest city.

First we must come back to the elementary principles of city building. We must recognize the fact that the home is the foundation of the city. Big factories, tall buildings, improved facilities for transportation and communication are all important items in city building but none of them, nor all of them, compare in importance with the question of making our city an ideal home place.

(While the author's comments have specific reference to conditions in the State of Texas, they are applicable to many cities throughout the United States.)

Let us hope that from the depression will come a new standard for grading Texas cities. In the past our definition of "The Best City" was based on population, number of skyscrapers, payrolls, and bank deposits. The new standard for "The Best City" will give chief consideration to sanitary and living conditions of districts occupied by negroes, Mexicans, and the poor whites.

Zoning, so far as the average city of Texas is concerned, has its chief urge in the protection it gives to the home. Here is one item in city building requiring no bond money, one which is just as badly needed during the depression as it was or will be needed during boom times. Our report from Houston says that 90 per cent of the $7,725,210 building construction in Houston during the past year was residential and the most marked activity was in those sections where restrictions are most severe.

A word of caution should be thrown out regarding zoning. No city should attempt zoning until it has employed a competent city plan consultant and then its zoning should be a definite part of its complete city plan.

City Planning Cheap — City Rebuilding Expensive

The depression can aid us in reducing costs on all phases of city building. We must learn first the difference between the planning of a city and the rebuilding of a city. Let me give two illustrations from Dallas. When Kessler's plan was prepared twenty-two years ago, he recommended that we make a park along Turtle Creek. He recommended that we do the same for Mill Creek. The park development of Turtle Creek was carried out at very small cost to the city. As a result, we have a parkway that is becoming more and more beautiful each year. We also have high land values throughout the entire Turtle Creek Valley, and the city will never be called upon to spend one dollar for the drainage of Turtle Creek.

This was a case of city planning.

Kessler's plans for the park development of Mill Creek were not adopted. Three results have followed. First, as the upper watershed became covered with houses and paved streets, floods in the lower sections became more pronounced and property values depreciated. Second, the city is now called upon to spend hundreds of thousands of dollars for storm sewers. Third, the thickly populated Mill Creek Valley is deprived of what would have been a beautiful and much needed parkway.

While the hundreds of thousands of dollars being spent for storm sewers will protect homes from floods, yet the results are costing the taxpayers heavily and the property values can never be raised to the level that they would have reached had the creek been converted into a parkway in the beginning.

This is not a case of city planning but one of city rebuilding.

These lessons are being emphasized by the depression, and now the city and property owners are cooperating for the development of parkways along creeks in the newer sections, all of which will save future bonds and future depreciating values.

Street-Widening Costs Too High

During the past few years Dallas has spent over five million dollars on street widening. This was not a case of city planning but rather a case of rebuilding. I make this statement because of the fact that since 1927 we have had a law whereby a street can be widened by condemning a building line at a small fraction of the cost of immediate widening. Neither Dallas nor any other Texas city has used this law and I am now hoping that we shall condemn building lines on all streets scheduled for widening, thus saving the property owners and taxpayers millions in future costs of street widening.

In Dallas and throughout Texas we should take advantage of the depression to preach the gospel of fair play in the purchase of land for public use. We should educate our public, we should educate city and county officials and school board and park board members so that we can put a stop to the practice of paying fancy prices for land needed for public improvements. Condemnation procedure originally intended to be the means of arriving at a fair and reasonable price frequently results in prices far in excess of those paid by private individuals. A city-wide- county-wide, and state-wide campaign of education may be necessary to correct this exceedingly harmful practice which has fastened itself upon us during the years.

When you remember that the taxpayer must pay $1.94½ in order to retire $1.00 of a forty-year bond, you get a conception of the losses that come when bond money is spent without competent guidance. The greatest loss, however, is not wasted bond money, but it is wasted opportunities. When our cities and counties are spending millions, frequently doing things of little value, they are often neglecting things of tremendous value. And it is often true that these neglected things would cost very little in the way of money. The city or county official, no matter how honest, how conscientious, how successful in private business, lacks the special training, knowledge, and wisdom needed to plan and carry forward a community development program. The depression should teach us that we can save public money and save community opportunities by securing the guidance of the best obtainable consulting service.

The reduction of taxes is important but not one-tenth so important as the stopping of waste and the elimination of inefficiency. Public expenditures should be curtailed, yet we must remember that a complete shutdown of all public work will paralyze the community.

It has been my pleasant task during the past months to study the history of Texas and Dallas. I find that the city builders who went before us faced and overcame obstacles more serious than the worst now confronting us.

We should use the depression. We should get from it the lessons it offers but we should not allow the psychology of the depression to overcome us and thus to do harm to our city and county.

METAL CRIBBING FOR HILLSIDE ESTATES AND ROAD WORK

by
JOHN J. DUNHAM

IN many locations on highways and city streets and in developed parks or hillside estates, it is necessary to provide retaining walls to limit the extension of fills that otherwise might encroach upon abutting property, to stabilize steep slopes above or below the line of traffic, or to make possible widened roadways over culverts or other existing structures.

The first type of construction which suggests itself is a solid wall of masonry. In many locations these are excellent, but their initial cost is high, as of course they must provide stability by the weight of the material composing the wall, and if they are to be lastingly useful, their foundations must be solid and unchanging.

A crib wall is the next recourse, because in such a structure the necessary stability is largely provided by the gravel or sand or other cheap filling material which is contained by the cribs. Wooden members of sizes and shapes approximating railroad ties have been used in localities where lumber is cheap and plentiful. Where there are no prolonged dry seasons to enhance the danger of fire these often give good service. They are, of course, subject to progressive decay and to the ravages of insects as well as to burning.

Crib walls of wholly rigid materials are excellent structures where installed with

Metal crib wall, 114 feet long, installed by the California Division of Highways on Bayshore Highway, two miles south of the San Francisco-San Mateo County line.

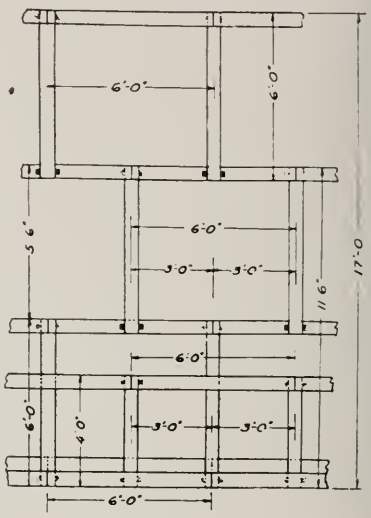
care and judgment and where foundations are completely stable. However, the desirability of a certain *toughness* or *flexibility* —ability to withstand unevenly exerted strains and those of severe freezing and thawing—has led to the development and wide use of metal cribbing.

This is made of the same material (galvanized pure iron) as the corrugated culverts which have proven so practical under highways and railroads for twenty or thirty years. The gage employed for the member walls (No. 16) is that of the smaller sized corrugated pipes which form a majority of individual installations. Reinforcing elements are of heavier metal, ranging up to No. 9 gage. As is well known, many thousands of these culverts are in good serviceable condition after from twenty to twenty-five years in the ground with indications of many years of further usefulness. The service conditions of metal cribbing are somewhat less severe, since the members will not be subjected to erosion, so it is probable that its useful life will be even longer than that of corrugated pipe.

Metal cribbing has many of the same advantages over alternate materials as corrugated pipe. It is comparatively light — easily transported, handled and installed— members weigh approximately 40 lbs. each and are easily handled and placed by one man—it is tough and strong in service— free from damage by minor shifts and settlements; it is unharmed by insects, worms, fire or earthquakes; and it is readily removable, with 100 per cent salvage value.

A plain wall of concrete, or even of stone, fails to harmonize with rural or park surroundings like a natural bank or a fill which has been sodded or planted with shrubbery. There is too much of the straight line and of artificially regular surface. Such an effect is greatly relieved by building the wall in crib form; and this has the further advantage of permitting an early growth of vines or shrubs between the members. If desired, the crib members can thus be entirely hidden and an unbroken bank of greenery presented to the eye. In the interval before this has been accomplished, it is desirable to paint the exposed portions of metal cribbing in green, gray or brown according to the prevailing tints of the location.

Crib walls of galvanized iron (like those of other practical crib materials) are designed for retaining earth walls and embankments at much steeper slopes than that of the angles of repose of the bank materials. They are thus perfectly adapted to thousands of locations on highways and railroads, and are already serving with complete success at a large number in various portions of the country.

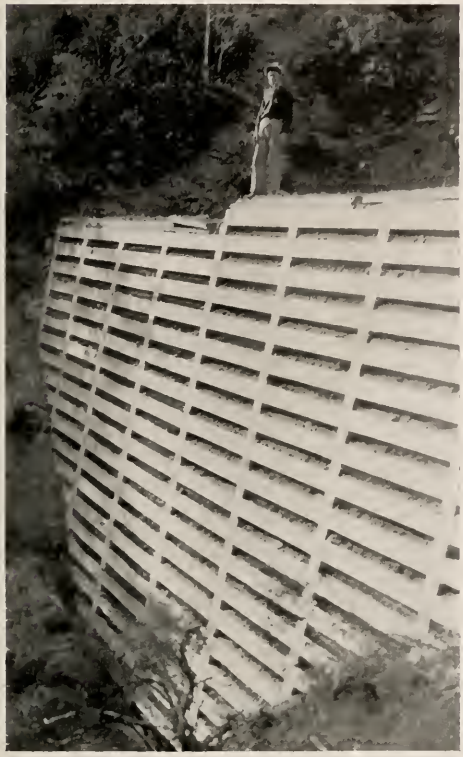


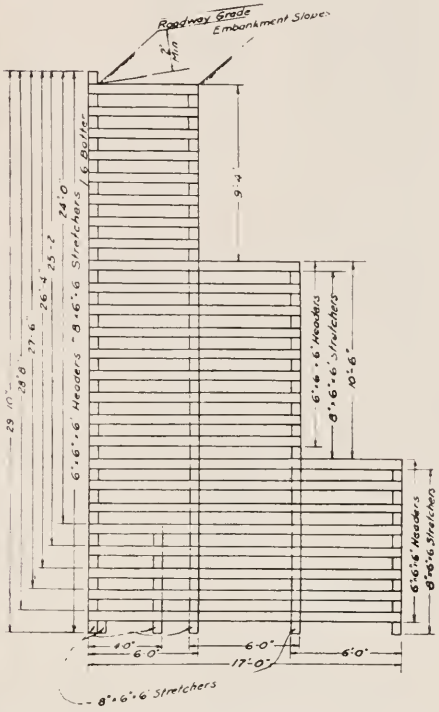
PLAN VIEW OF FOUNDATION COURSES.

There are situations, however, usually known as earth slides, where neither metal cribbing nor any other form of crib or retaining walls nor pile - and - cable barriers will serve to stop the movements and abolish the threat to adjacent property. These are usually caused by water, imprisoned within the body of the hillside and acting as a lubricant to permit the slippage of one

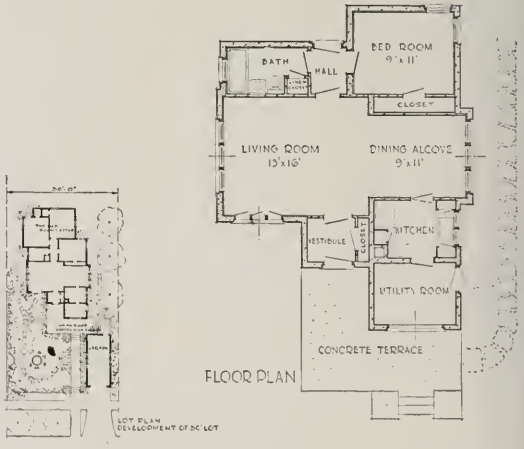
earth stratum upon another. A vast overburden of earth thus moves downward on what might be termed a greased slide, and mechanical barriers of any sort usually prove ineffective. The remedy is found in a careful survey of the moving area and just above it to locate the imprisoned water, followed by the installation of deep drains of perforated pipe surounded by coarse gravel or other pervious material. Numerous slides of destructive character have been remedied in this way. When this has been accomplished a metal crib wall may be found appropriate to maintain the lower portion of the slope against the ordinary gravitational forces and the action of the weather.

In many locations the costs of metal cribbing members will be found to be less than those of suitable alternate materials. In others the immediate cost of the members may be somewhat greater, but analysis of all the costs involved, including freight, hauling, breakage and installation—that is, the costs of the completed work—will show economies resulting from the use of the metal quite sufficient to justify its employment.





Left: Metal crib wall 30 feet high on San Bernardino-Lake Arrowhead Road. One of many erected by the California Highway Commission. Right: Plan of 30 foot metal crib wall shown in accompanying photo.



REINFORCED CONCRETE HOME OF MODERATE COST

Engineering
and
Building Construction

"Golden Gate" Cement used.

COMPLETED MARIN PIER, GOLDEN GATE BRIDGE

24,000 cubic yards of concrete required. Cost of pier $405,000.
Reading from left to right—James Reed, General Manager; C. F. Paine, Principal Assistant Chief Engineer of Strauss Corp.; James Graham and Russell G. Cone, Resident Engineer of the Strauss Corporation.

FEATURING PROGRESS WORK ON THE
GOLDEN GATE BRIDGE
San Francisco to Marin County, California

DRAWING OF GOLDEN GATE BRIDGE—ONE AND ONE-FIFTH MILES LON

SIX MONTH'S WORK SEES GOLDEN GATE BRIDGE 7% COMPLETED

by
JAMES REED
General Manager, Golden Gate Bridge and Highway District

AFTER approximately six months, during which actual construction has been under way, the Golden Gate Bridge at San Francisco, world's longest single span suspension bridge, stood seven per cent completed as of July 1, 1933.

Preliminary construction, before excavations for the piers and anchorages could be undertaken, was commenced in December, 1932. This work involved the building of trestles, roadways and docks for the handling of materials and equipment and in itself presented numerous interesting engineering features.

On the Marin county side of the Golden Gate it was necessary to build a roadway, with heavy temporary bridge structures along the base of the cliff from the approximate location of the Fort Baker military dock to the north pier site, just west of the light house at Lime Point.

At Fort Point, on the San Francisco side of the Golden Gate, an 1100 foot trestle was constructed to the pier site off shore. This preliminary construction involved the use of high explosives, as the bottom at

TH A SINGLE CLEAR SPAN OF 4200 FEET, LONGEST SPAN IN THE WORLD

this point is solid rock, scoured by swift tides, requiring that each pile bent be sunk into specially blasted holes.

Coffer Dam Construction

While this work was under way, construction of a coffer-dam for the Marin pier was started. This pier, now fully completed, is located on a rock shelf at the base of a 250-foot cliff. Before excavations could be commenced the unwatering of the site was necessary. This was accomplished by the construction of a combination timber crib, earth embankment and sheet piling structure, enclosing the site on the water sides and abutting against the sheer cliff walls on the shore side.

With the coffer dam completed, excavations were commenced. These involved the removal of 14,000 cubic yards of hard rock to a maximum depth of -32 and a minimum depth of -20. The maximum depth was reached at the southwest corner of the pier, where rock conditions encountered made it necessary to go deeper than the -20 elevation set for the pier base.

Meanwhile two modern aggregate batching plants were built—one on the Marin side of the Golden Gate and one on the San Francisco side, just west of Crissy Field.

Both these plants were in readiness for delivery of concrete to mixer-body trucks long before needed and with the completion of excavations for the Marin pier the pouring of concrete was started without delay.

Over 30,000 barrels of Golden Gate Portland cement were used to complete the huge structure, dimensions of which are 80x160 feet at the base, 65x134 feet at the top and 64 feet in height. More than 213,600 pounds of tower anchorage steel was impedded in the mass.

Pier Finished Ahead of Time

The Marin pier was completed ahead of schedule on June 29, 1933, and turned over to the Golden Gate Bridge and Highway District by the Pacific Bridge Co., which holds the contracts for the two main piers Its actual cost was $405,000.

Courtesy of Joseph B. Strauss, Chief Engineer

DRY POINT ETCHING OF THE GOLDEN GATE BRIDGE

BY CHESLEY BONESTELL

While work on the Marin pier was under way, excavations were being made for the San Francisco pier and the two cable anchorages on either side of the Golden Gate.

The anchorage contract, held by the San Francisco firm of Barrett and Hilp, involves the handling of approximately 238,000 cubic yards of earth and rock and the placing of 127,290 cubic yards of concrete.

As of July 1st, 1933, the Marin anchorage 26.8 per cent completed, with the base block concrete poured and the placing of the cable anchorage steel well under way.

Excavation for the San Francisco anchorage as of the same date was approximately 40 per cent completed, with a new sea wall, to replace the original one that surrounded Fort Winfield Scott virtually 100 per cent complete. Construction of this sea wall necessitated the removal and storage of hundreds of tons of granite blocks, used in the original sea wall, which was built by the United States government in the early '60s. These blocks are being utilized to good advantage in the new construction.

San Francisco Pier Under Way

Work on the San Francisco pier, now being carried on by the Pacific Bridge Company is among the most interesting features of the bridge project.

Excavations, accomplished by means of subaqueous blasting now are 57 per cent complete, the contract being slightly behind schedule as the result of the extremely hard rock formation encountered.

Construction of the San Francisco pier involves numerous unusual features.

Building of the pier itself will be preceded by construction of its fender, which will act as a cofferdam enclosure for the former. In order to accomplish this the entire pier and fender site is being subaqueously excavated to the level of the pier foundation at -100.

When these excavations are completed within the next few weeks, the fender will be constructed. This will entail the placing of steel frame units, segmental in design. One unit will be lowered at a time and held in place by steel rail guiders, attached to the preceding unit, thus interlocking the frame.

These units will be 27 feet wide, the width of the fender, and 35 feet long. They will be inclosed on the sides and filled with concrete after being set in place.

Horse Shoe Fender

The fender will be built in the form of a horse shoe, the plan being to float the steel pier caisson into place through the open end. When the caisson is in place the opening of the "shoe" will be closed and the entire floor between the fender walls will be covered with a sand cushion, into which the caisson will be sunk.

The caisson then will be sunk until it rests on the rock bottom of the excavation and air pressure can then be applied.

With the caisson in place there will be a three-foot space between it and the fender. This space will be filled with concrete up to the original elevation of the bottom of

EXCAVATING FOR CABLE ANCHORAGE SAN FRANCISCO SIDE

CABLE ANCHORAGE, MARIN SIDE, GOLDEN GATE BRIDGE

the Golden Gate. Later a clay fill will be placed to the height of the bottom of the base block of the pier at -50.

When all these operations have been completed the sand cushion will be removed from within the bottom of the caisson and the surface of the foundation rock prepared for placing the pier foundation concrete.

Adoption of this method of construction is somewhat of a departure from the original plan, but deemed most satisfactory by the engineers, owing to the 65-foot depth of water at the pier site and because of tidal conditions.

Batching Plants in Full Swing

In conclusion, a few lines might be devoted to the concrete batching plants, which are unusual in many of their details.

These plants on each side of the Golden Gate have been erected on piers at the water's edge so that materials may be delivered to them by barge as they are required by the pier and anchorage contractors.

Mixer-body trucks are utilized in mixing the batches as they are carried from the batching plants to the site of pouring.

The plants are equipped for the handling of sand and four sizes of coarse aggregates up to a maximum of six-inch cobbles. These are unloaded from the barges by means of clam shell buckets and deposited in large wooden bunkers, being discharged, as needed, through gates into a conveyor belt, which delivers the materials into bins above the batching plant.

The cement is delivered in bulk form in barges and pumped out through a booster unit into large steel tanks above the plants. In each plant there are two weighing units for the preparation of four cubic yard batches, the sand and four grades of aggregates being measured by an operator through an interlocking system that is controlled by an "electric eye," or photoelectric cell. This device prevents the unlocking of a second aggregate bin until the first has been emptied and the required amount of material is in the hopper.

Weight control may be regulated for any desired proportion of batch by a locking mechanism, controlled by the engineer in charge, while water is measured by meter and cement weighed on a separate scale, automatically operated.

The batching plants were designed especially for the Golden Gate Bridge job by the Pacific Coast Aggregates, Inc., of San Francisco and in addition to the piers and anchorages, they will be utilized in the preparation of concrete for the approach foundations and deck paving.

The Golden Gate Bridge is being built by the Golden Gate Bridge and Highway District under the design of Joseph B. Strauss, who is the Chief Engineer. Wm. P. Filmer is President of the District and James Reed is General Manager. The bridge will be the longest single span bridge in the world and funds for its construction are derived from a bond issue of $35,000,000 issued by the District.

STRUCTURAL FEATURES OF GOLDEN GATE BRIDGE

The total possible live load supported by the two main cables of the Golden Gate Bridge is 25,400,000 pounds, corresponding to the bridge roadway packed, curb to curb, with vehicles and both sidewalks fully loaded, for the full length of the span.

* * *

The load supporting capacity of the two cables is 430,000,000 pounds, 2.6 times the maximum load.

* * *

The pull on each cable at the anchorages is 63,000,000 pounds and the counteracting resistance capacity of the anchorage blocks is 126,000,000 pounds.

* * *

The vertical load on each pier at the base, including the concrete pier shafts, is 400,000,000 pounds, yet the load on each square foot of the supporting rock does not exceed the established standard units.

* * *

The horizontal wind force at each tower top is 1,900,000 pounds, corresponding to a velocity of 90 miles per hour. The bridge is safe at velocities far above such extremes.

* * *

Each tower comprises two steel posts, built up of a series of rectangular cells in

groups, the number of cells decreasing from 97 at the bottom to 19 at the top.

* * *

There are 723,000 square feet of concrete roadway and sidewalk paving in the bridge proper and another 273,000 square feet in the Presidio steel viaduct.

* * *

There are three and one-fifth miles of aluminum and steel hand railing on the main and approach spans and one and five-eighths miles of additional railing on the approach roads.

* * *

The steel arch over old Fort Point, clearing it by 95 feet, has 4 arch ribs, with a clear span of 319 feet and a height of 200 feet.

* * *

Adjoining the arch on the San Francisco side and the bridge end on the other, are 1650 feet of steel viaducts on a curve, with a maximum height of 190 feet and deck widths of 84 and 68 feet respectively, which connect the bridge proper with the toll area and the approach roads.

* * *

There are two viaducts in the Presidio approach, one of steel 95 feet high and the other of concrete 2911 feet long.

TONS OF STEEL AND CONCRETE

The Golden Gate Bridge has the greatest steel tonnage of any single span but one in the world—100,000 tons—including cables, sufficient to load a freight train 20 miles long.

Each cable weighs 11,000 tons and contains 27,572 separate wires, two-tenths of an inch in diameter. The total wire length is 80,000 miles, long enough to girdle the globe more than three times.

The steel in its two towers alone is more than the steel in the entire Quebec Bridge —one of the world's greatest bridges, and in addition, there are 9,000 tons of steel in the approach spans and steel viaduct of the Presidio approach road.

The San Francisco pier is one of the largest ever built, 90x185 feet, with a base area of 15,600 square feet, carried 25 feet into the rock ledge of the bay bed, and with a total height of 144 feet.

Each cable anchorage has twin three-tier anchor blocks. Each twin of these anchor blocks weigh 64,000 tons.

The total concrete in the piers, fender and anchorages is 254,690 cubic yards, enough to build a solid shaft of concrete 25 feet square and 2 miles high. Large additional cubic yardage is contained in the approach span footings, and in the Presidio viaduct.

GOLDEN GATE BRIDGE ENGINEERING PERSONNEL

The engineering organization is headed by Joseph B. Strauss, who is Chief Engineer. Collaborating with the Chief Engineer is a Board of Consulting Engineers, composed of O. H. Ammann, Charles Derleth, Jr. and Leon S. Moisseiff. Clifford E. Paine is Principal Assistant Engineer and Russell G. Cone is Resident Engineer.

CONCRETE

FOR

San Francisco Pier and Fender

and Marin Pier

— and —

Anchorages and Piers of

Approach Spans

OF THE

GOLDEN GATE BRIDGE

FURNISHED BY

PACIFIC COAST AGGREGATES, INC.

GOLDEN GATE-ATLAS MATERIALS COMPANY

85 Second Street San Francisco

GOLDEN GATE BRIDGE COMPARATIVE FIGURES

THE bridge has the longest single clear span in the world, 4200 feet long, four-fifths of a mile, three times the length of the Brooklyn Bridge in New York, and 700 feet longer than the greatest span ever built, the famous George Washington Memorial Bridge at New York.

The two side spans are 1125 feet each, as against 550 and 610 feet respectively for the George Washington Bridge.

Thus the bridge proper has a total length of 6450 feet, or one and one-fifth miles, as against 4660 feet for the George Washington Bridge.

The towers are 121 feet wide at the bottom and 740 feet above main high water, the highest and largest bridge towers in the world, extending more than 150 feet above those of the George Washington Bridge. (Measured from the base of the San Francisco pier the total height is 846 feet.)

The minimum vertical clearance at center is 200 feet above mean high water, 100 feet greater than the clearance of the Brooklyn Bridge, and 20 feet more than the clearance of the George Washington Bridge.

The total bridge width is 90 feet, divided into a 60-foot roadway, with 6 lanes of vehicular traffic and two ten and one-half foot clear width sidewalks.

The grand total length, including the two approach roads, or from Waldo Point in Marin County to the Marina Gate of the Presidio in San Francisco, all embraced within the project, is 7 miles.

The two main cables are thirty-six and one-half inches in diameter each and 7660 feet long between anchorages, as against 36-inch cables 5270 feet long for the George Washington Bridge.

The cable sag at center is 475 feet, 150 feet more than that of the George Washington Bridge.

BRIDGE NOTES

The Golden Gate Bridge toll terminal has 16 gateways and 8 toll booths. It contains the administration buildings, the fire and police equipment and the maintenance depots.

● Anchorages and Piers of Approach Spans, Golden Gate Bridge

■

Constructed by

BARRETT & HILP

GENERAL CONTRACTORS

918 HARRISON STREET

SAN FRANCISCO

GRADING FOR ANCHORAGES AND PIERS OF APPROACH SPANS TO GOLDEN GATE BRIDGE BY

PIOMBO BROS. & CO.

1571 TURK STREET, SAN FRANCISCO

Also Grading Contractors for Bay Bridge Tunnel

ALL ELECTRICAL WORK

on Golden Gate Bridge

by

ALTA ELECTRIC AND MECHANICAL CO., INC.

467 O'Farrell Street

San Francisco

Phone ORdway 2166

HONOR AWARDS ON SEVENTY BUILDINGS IN SAN DIEGO COUNTY

A JURY composed of David J. Witmer and D. C. Allison, architects of Los Angeles, and Fitch Haskell of Pasadena, has submitted its report of Honor Awards for exceptional architectural merit for 70 buildings erected in San Diego county since 1909—a rather long period to cover but not without interest nevertheless.

"To the regret of the jury only one small house nomination was received. Small houses vastly out number all other buildings in San Diego as elsewhere. Small houses definitely determine the quality of a residential district and form the most significant evidence and gauge of the art of living of the community.

"Simple, well designed houses are sufficiently rare to bring instant appreciation, and are too seldom found in groups. The jury is keenly aware of the importance of good design both as a cultural and a sound economic influence. It has therefore listed in the commentary the addresses of some houses noted during the tours of inspection.

"The jury feels that school building design in general somewhat lacks the distinction found in the design of other classes of work.

"Balboa Park remains and perhaps always will be the most beautiful area in San Diego. It grows lovelier from year to year and is most truly the crowning glory of a city with many natural advantages.

"With this beautiful central area, the city and county of San Diego still lack adequate public buildings and an adequate plan for the grouping of such in a dignified civic center. The possibility of such a great development in the future should be carefully studied."

In submitting the list of awards the jury accompanied each with brief comment noting the special features of excellence of the particular work, an innovation which will add interest to the honor awards for the layman.

Buildings receiving honor awards, with listing (in this order) of the structure's name, owner, address, architect, contractor and reasons in brief made by the jury are as follows:

LIST OF HONOR AWARDS

Single Dwellings, Five Rooms and Less—Angier house: Mrs. Harold Angier, Owen St., La Playa; Requa & Jackson, architects; R. P. Shields, contractor; "skill in planning for most unusual site, restricted and directly on beach."

Merrick house; Mr. and Mrs. Willard B. Merrick, La Mesa; H. Louis Bodmer, architect; Louis Moisan, contractor; "direct, simple plan, exterior free from unnecessary ornament or forced irregularity."

Single Dwellings, Six and Seven Rooms—McGinnis house: Remsen McGinnis; 7235 Monte Vista, La Jolla; W. L. Risley, Los Angeles; Frank L. Stimson; "directly on street, has surprising feeling of space inside, prefect unity with formal garden, fine taste in detail and color."

Shepherd house; Mrs. Thomas L. Shepherd; La Jolla Hermosa; Thomas L. Shepherd (designer); Frank L. Stimson; "though formal, has homelike comfortable character, excellent plan, well suited to open site."

Hardy house; Rex Hardy, 1860 Torrey Pines Road, La Jolla; David J. Witmer and Loyall F. Watson, Los Angeles; T. B. Nichols; "living rooms on second floor to gain fine views, bedrooms below planned exceedingly well."

Single Dwellings, Eight to Twelve Rooms—Wells house; Albert C. Wells; Rancho Santa Fe; Palmer Sabin, Pasadena; J. H. Simpson; "shows thoughtful use of wood to gain variety, not a farmer's house but perfectly suited to ranch life."

Rogan house; Nat Rogan; Chula Vista; W. L. Risley, Los Angeles; P. M. Holt (deceased); "remarkably fine example of U-shaped plan, a triumph of judgment in use of simple materials, outstanding modern adaptation of the traditional California ranch house."

Abbott house; Mr. and Mrs. Clinton G. Abbott, 4499 Hermosa Way; William Tenmpleton Johnson; J. H. Nicholson and Harry C. Brawner; "has good plan solution of formal city house on restricted sloping site with fine views."

Bishop house; Mrs. Ellis Bishop, Rancho Santa Fe; Marston & Maybury, Pasadena; J. H. Simpson; "well planned to meet many special requirements, shows understanding and cooperation of owners."

Johnson house; Mrs. William Templeton Johnson, 4320 Trais Street; William Templeton Johnson; Harry C. Brawner; "permanent type suited to this region."

Peckham house; Mr. and Mrs. Hildreth R. Peckham, 2905 Nichols Street, La Playa; William Templeton Johnson; Harry C. Brawner; "fine details and materials combined to give charm and distinction to living without omtting any comfort and convenience."

Shops and Apartments for Less than Seven Families—Valanciana Realty Company shops and apartments; Valaciana Realty Company; Rancho Santa Fe; Lilian J. Rice; Harold Ketchum; "pleasant group."

Apartments for Seven or More Families—*No* award.

Club Houses having Bedrooms—San Diego Athletic Club; San Diego Athletic Club; San Diego Athletic Club, 1250 Sixth Avenue; William H. Wheeler, F. W. Stevenson and I. E. Loveless; Jarboe Construction Company; "good plan and exterior mass."

Elks Club; Elks Club, 350 Cedar Street; Quayle Brothers; M. Golden; "dignified exterior."

Hotels—Casa de Manana; Mrs. Marrison Hopkins, La Jolla; Edgar Ulrich; Henry Barkey (construction superintendent); "unusual care in planning low building, not obstructing ocean views from town; good character as setting for agreeable social center of a small town."

San Diego Hotel Addition (alteration); Spreckels Companies; State Street; William H. Wheeler; Lange & Bergstrom.

Hotel Del Mar (additions); Del Mar Hotel, Del Mar; Jonathan Ring, South Pasadena; Houghton & Anderson; "new cottages D, E, and F have good color contrast, show studious understanding of style set by original work."

Store Building, One Story—Store front modernization; Mr. and Mrs. Alfred Stahel, 1500 block on Fifth Avenue; Requa & Jackson; no contractor; "in excellent taste."

Rancho Santa Fe Store and Office Building; Rancho Santa Fe Land & Improvement Company, Rancho Santa Fe; Requa & Jackson; no general contractor, "picturesque varied treatment suited to civic center group of village."

Hamilton's Store; Hamilton's, Ltd.; Seventh Avenue and C Street; Frank P. Allen, Jr.; Walter Trepte; "rich, well decorated exterior and interior, excellent setting for choice merchandise."

Federal Truck Building; Walter Trepte; Ninth Avenue and Market Street; Frank P. Allen, Jr.; Walter Trepte; "good example of brilliant color on strong structural design in concrete."

Mercantile Buildings, Less than Five Stories—Shepherd & Bishop Building, T. L. Shepherd and T. W. Bishop, 1119 Wall Street, La Jolla; T. L. Shepherd (designer); F. L. Stimson; "excellent use of tile in small commercial building; good proportions and restraint."

Buick Building, three-story portion; Robert D. Maxwell Company, 402 West Broadway; Quayle Brothers; B. O. Larsen; "simple, pleasing facade showing restraint in decoration with well composed openings."

Lion Clothing Company Store; Fox-Gaynes Realty Company; Broadway and Sixth Avenue; William Templeton Johnson; Scofield-Twaits Company; "good fenestration, rich decoration, well placed; generally distinguished character."

Striecher Shoe Company, 939 Fifth Avenue; F. W. Stevenson; E. F. Bryans; "well conceived improvement, adequately executed."

Mercantile Buildings, Five Stories or More—San Diego Trust & Savings Building; San Diego Corporation, Sixth and Broadway; William Templeton Johnson; William Simpson Construction Company; "outstanding design showing infinite care and study."

Medico-Dental Building; Medico-Dental Building Company, Second Avenue and A Street; F. W. Stevenson; William Simpson Construction Company; "plain, straight-forward plan and elevations."

The (Original) Marston Store; The Marston Company, Sixth Avenue and C Street; George W. Kelham, San Francisco; contractors unknown; alteration on Sixth Avenue to Marston Store (architect, William Templeton Johnson; contractor, Harry C. Brawner;) "quiet, well proportioned design; good taste, dignified; as satisfactory now as several years ago when built."

Banks—First National Trust & Savings branch; First National Trust & Savings Bank; University Avenue and Thirtieth Street; Requa & Jackson; A. E. Keyes; "decorative arrangements of exterior."

Border Bank and Stores; Border Bank; San Ysidro; F. W. Stevenson; R. A. Jackson; "good grouping of dignified banking rooms with row of stores."

Theaters and Auditoriums—No award.

Industrial Buildings—Adair Garage; Gildred Building Company, Seventh and A Street; William Templeton Johnson; William Simpson Construction Company; "honest expression of simple exterior; different levels well treated."

Substation; San Diego Consolidated Gas & Electric Company, Fourth Avenue and Ash St.; Requa & Jackson; no contractor; "monumental exterior treatment of public utility building."

Original French Laundry; Original French laundry, 1040 Cleveland Avenue; Frank P. Allen, Jr.; Walter Trepte; "praise-worthy collaboration of owner and architect to give decorative front to a useful interior."

Other Commercial Buildings—Santa Fe Railroad Station; W. B. Frisbie, agent; Broadway and Kettner; Bakewell & Brown, San Francisco; contractor unknown; "handsome structure well expressing delightful all-year climate."

Churches—The Bishop's School Chapel; The Bishop's School; La Jolla; Carleton M. Winslow, Los Angeles; Winter & Nicholson; "special problem solved with great dignity and simplicity."

Church of Sacred Heart; Catholic Diocese; Coronado; Louis J. Gill; Harry C. Brawner; "worthy results with modest budget."

Grace Lutheran Church; Grace Lutheran Church, 3993 Park Blvd.; Schroeder & Kennedy; Wurster Construction Company; "unusually fine, small church group with minister's residence and Sunday school surrounding a court."

Private Schools—Francis W. Parker School; Mrs. William Templeton Johnson, 4201 Randolph St.; William Templeton Johnson; Harry C. Brawner; "practical well-planned open setting for educational work."

Alteration, Bentham Hall; The Bishop's School, La Jolla; Louis J. Gill; F. L. Stimson; "well-handled difficult problem."

Educational Buildings—Zoological Building; Zoological Society of San Diego; Balboa Park; Louis J. Gill; Earl Grey; "simple, well-proportioned facade, suited to purpose."

Hospitals—Nurses' Home; Mercy Hospital; Hillcrest Drive; J. E. Loveless, Los Angeles; contractor unknown; "attractive facades and decoration adequate to make utilitarian buildings beautiful."

Recreational Buildings—Zlac Rowing Club; Zlac Rowing Club; Pacific Beach; Lillian J. Rice; Diamond Construction Company, "rare skill in use of inexpensive wood construction to produce a most delightful building."

Army & Navy Y.M.C.A.; Broadway at India Street; Lincoln Rogers and F. W. Stevenson; G. F. Campbell; "monumental structure . . . . with efficient plan."

Y.W.C.A. Building; Y.W.C.A.; Tenth Ave. and C St.; F. W. Stevenson and C. E. Decker; Wurster Construction Company; "dignified comfortable interiors, well-planned within, worthy exterior facades."

Quasi-Public Buildings Not Otherwise Grouped—Mission Beach Bath House; Mission Beach Company, Mission Beach; Lincoln Rogers and F. W. Stevenson, Wurster Constructon Company; "splendid scheme, well-planned, festive character in decoration, unusually generous interior (violent colors of recent painting seriously injure its appearance.)"

Remodeled Building for San Diego Chamber of Commerce; San Diego Chamber of Commerce, Broadway at Columbia St.; Requa & Jackson; Walter Trepte; "useful interior and fitting facade of generous scale to make it a semi-public institution."

Monastery Building; Carmelite Monastery of Santa Clara; Hawley Blvd.; Frank Hope, Jr.; F. E. Young; "imposing mass from north, west and south; judging from drawings, a well arranged plan for which award is given."

Schools—Sweetwater Union High School; Sweetwater Union High School District; National City; T. C. Kistner & Company, Los Angeles; L.E.C. Smith; "dignified monumental group, well landscaped on generous level site."

Junior High Schools—No award.

Intermediate and Elementary Schools—John Adams School; San Diego Public Schools, Adams Avenue and Thirty-fifth St.; F. W. Stevenson; Jarboe Construction Company; "general impression of strength and good taste."

Federal, State and Municipal Buildings—Marine Base; United States Government, tide lands; Bertram Goodhue (deceased); contractor unknown; "for so large a group, these buildings in their careful landscaping have an inviting appearance. (Various features listed) make these buildings a monumental group of great distinction."

Libraries—Ocean Beach Branch Library; City of San Diego; Ocean Beach; Robert W. Snyder; T. H. Thornton (deceased); "simple and open plan, perfect supervision, excellent lighting."

Museums—Junipero Serra Memorial Museum; City of San Diego; Presidio Hill; William Templeton Johnson; W. E. Kier Construction Company; "an outstanding modern example of the best of our heritage of mission architecture, admirably fitted to a commanding site and expressing with remarkable vigor the fine, simple dignity of Father Serra."

Bridges, Viaducts—No award.

Exposition Buildings—San Diego Exposition Buildings; City of San Diego, Balboa Park; "as time passes and planting grows, they gain in beauty of setting. As award at this time is only to serve as a reminder to San Diego that in them the city possesses one of the most beautiful architectural groups in the country, and that when properly preserved, they will be more and more useful to both citizens and travelers."

Public Buildings Not Otherwise Listed—No award.

Memorials—Mt. Helix Nature Theater; San Diego County; Mt. Helix; Requa & Jackson; no contractor; "in this climate, such an outdoor meeting place is ideal, and the public spirit of its donors deserves great praise." (Land donated by Col. and Mrs. Ed Fletcher; theater erected by Mrs. E. M. White and Cyrus Yawkey.)

BUYS ENCAUSTIC TILING COMPANY

Atholl McBean, president of Gladding, McBean & Co., announces the purchase of all of the Pacific Coast properties of the American Encaustic Tiling Company, Ltd., of New York, which includes the Hermosa beach and Vernon factories, clay mines and all current assets, including inventories and accounts receivable, and the Pacific Coast rights to all their patents.

Included in this latter item is the so-called Prouty patent, under which the American Encaustic Tiling Co., Ltd., has developed the Hermosa tile.

This purchase by Gladding, McBean & Co. places the company in position to serve the eleven Western States, known as the Pacific Coast trade area, with a complete line of floor and wall tile, decorative tile and quarry tile.

All Gladding, McBean & Co. products, including those products added through this purchase will be manufactured exclusively from raw materials produced on the Pacific Coast.

Frank A. Philo, who has been in charge of the properties for the former owners for many years, will become a vice-president of Gladding, McBean & Co., in charge of its tile department.

OPENS ARCHITECTURAL STUDIO

Fred W. Confer, Jr., has been granted a certificate to practice architecture by the California State Board of Architectural Examiners, Northern District. Mr. Confer has been associated with Edwin Snyder, architect of Berkeley, for several years and his work has received merited praise. He has opened a studio at 2812 Russell Street, Berkeley. He is already working on several residences for East Bay clients.

RUSTIC FENCE APPEALS TO DISCRIMINATING ARCHITECTS

For the past ten years architects have been interested in the French provincial fence as a medium for screening and for boundary lines in work connected with private homes and country estates. A more general use of this material has been curtailed by the cost, as the hand labor required in its manufacture, plus water transportation and import duties, places it on the market at a price which permits its use only by the more wealthy clientele.

However, there is now being manufactured of redwood a new California product in this line. From the effects produced in gardens where it has been used, its success seems assured. The cost is considerably below the imported article, the erection simplified and the general effect improved.

During the experimental stages this fence was made similar to the French provincial fence with the bark peeled off the pickets, but later it was learned that by cutting the timber at the right season of the year the bark sticks tightly to the wood. Its soft brown color adds materially to the appearance. However, to satisfy all conditions this rustic fencing is produced with or without the natural bark finish.

The general effect is of rustic pickets of the desired height closely woven together with copper wire. During the process of splitting the small trees into pickets the natural surface of the bark is carefully handled and the moss, lichens and natural color preserved so as to retain the full tone value. It is an effective background for foliage and the brighter garden colors, yet it does not obtrude as an outstanding element in the picture.

An interview with one of the men who had the courage to develop a new enterprise during these stormy times brought the following response:

"Somebody is always adapting old ideas to new conditions and this infant of California industries is just one of those things. It happened as the result of a "squeeze play"; not a double finesse nor an end play, nor one of those stylish grand coups, but just a simple squeeze. The world was squeezed financially, the individual squeezed his pocket book, home building was more closely budgeted than ever, and out of the readjustment was squeezed this new product with its improvements and lower cost."

"The idea of rustic fencing is old, old as civilization. Conscious only of its utility, the Burmese dacoit used it centuries ago around his mountain home to prevent Mr. Tiger from transforming his personal property into a sylvan cafeteria. The home folks in darkest Africa surrounded their compounds with rustic close-woven fencing in order to snub the social aspirations of the King of the Jungles. And ever since it has been used as an inoffensive method of conveying the suggestion of exclusiveness to outsiders. During the reign of Louis XVI its use as an ornamental background became evident and subsequently has been used in gardens for its beauty as well as its usefulness."

There are three important differences between the California and the imported product. First, it is of redwood, the lasting qualities of which are generally known. With the natural bark, moss and lichens left intact, the effect is charming. Second, pure copper wire is used in tying the pickets to the back braces instead of copper weld and the wire is carried through in a continuous weave instead of individual ties. This gives greater pliability and permits of the panel adjustment to steep grades without effort. Third, the cost. With transportation at a minimum and a nearby source of supply, the fence construction firms find it unnecessary to carry large stocks on hand, or to invest large sums in warehoused goods. These factors all result in lower cost to the ultimate consumer. This fence is being manufactured by the California Rustic Fence Co., at Healdsburg under the brand "Calfence".

While this handmade fence compares in cost with a good grade of chain link, its service differs materially and consequently the entrance of this product on the market does not mean competition with local industry.

HOLDING ALOOF BAD POLICY

[Southwest Contractor & Builder]

Strange as it may seem, with all the opportunities offered to trade associations under the industry control section of the National Industrial Recovery Act, to improve conditions in their respective business fields, the great majority of individuals and firms engaged in the construction industry hold aloof from their group organizations. Construction always has been and is today the least organized of all industries, and yet organization is even more important to it than it is to many others. Comparatively few groups, and those relatively small ones, in the construction industry in Los Angeles and Southern California, are well organized. Some groups have no organizations whatsoever at the present time. Even the best organized among the contracting groups have a limited enrollment. Considering the great numbers who are engaged in all branches of the industry the apathy toward organization is, to say the least, distressing.

Those who hold aloof from their trade associations do so generally for one or both of two primary reasons. One is that they are unable to appraise the benefits which may accrue from membership in an association and they prefer to operate free from any obligations which their connection with it might involve. The other is that they believe they cannot afford, or at least do not care to pay the dues required as a condition of membership in an association. In addition to these reasons there are a multitude of excuses for persons not "joining." The most common of these is that they do not have the time to attend meetings. Another common excuse is that associations are controlled by cliques and they would not be given the consideration to which they believe they are entitled as individuals. Then there is the frequent complaint that they never have gotten anything out of an organization to which they belonged and it is, therefore, a waste of time and money to hold a membership.

As a matter of fact, there is no merit in any of the reasons or excuses generally given by business men for not joining their trade associations. They merely reflect individual apathy and a lack of interest in the conditions under which persons conduct their business. To this the man who is playing a lone hand will reply that he has managed to get along, and perhaps to his way of thinking, very nicely, too. But it does not follow that he would not have done even better if he had belonged to a trade association and profited by his contacts therein and the personal service which he might have had from it merely for the asking. There are many who capitalize their membership in trade association and are frank to admit that it has been an invaluable aid to them in business. These men usually put a lot into their associations; for no one can expect to get more out of them than they put in.

Some will, perhaps, criticise these remarks as "stereotyped." But they are none the less to the point. They may not influence many persons in their way of thinking, but they may be remembered later on when the trade associations have their day. And that day is rapidly drawing near. Codes under the industry control provisions of the National Recovery Act must be drafted by trade associations representative of their respective industries. That precludes a small group making the rules to govern the majority engaged in any industry. However, it will not prevent the government stepping in and getting up a code for the industry and that is something which business men generally do not want to happen. If they are to be governed by a code of any kind they want to have something to say about it. So all the major industries of the country are falling in line with the administration program and it behooves the smaller groups to do likewise.

If any branch of the construction industry considers it can get along without organization under the new economic set-up it is certain to be disappointed. The individual will have no voice in trade affairs except through his trade association. It should be remembered that in drafting their codes primary consideration is given by each group to its own interests. In the construction industry, with many branches interlocking, it is important that this interdependence be given consideration. One group may find fault with the rules laid down by another because it is vitally affected by certain trade practices or conditions of which the rules do not take cognizance. In such cases protests will avail nothing unless backed by a strong group organization.

If anyone imagines that when the industry control codes are set up and working the trade associations will have nothing more to do, he is sadly mistaken. As a matter of fact their most important functions will have just begun. New and unexpected situations will inevitably arise under the new economic set-up which can only be handled by trade associations. Moreover, there

« « « « With the Architects » » » »

COMMISSIONED ARCHITECTS

The Odd Fellow Society of Sacramento, have commissioned Starks & Flanders, architects, 310 Bank of America Building, Sacramento, to prepare plans for a $200,000 lodge building on the northeast corner of 9th and K Streets, that city. Several other Sacramento architects competed for this commission.

BERKELEY SHOP BUILDING

Plans have been completed by James W. Plachek, architect, Mercantile Bank Building, Berkeley, for a one and two story, frame and stucco, Spanish style shop building and residence on the east side of Telegraph Avenue, south of Parker Street, Berkeley, for Madam Sonia Poppic. Improvements will cost about $8000.

EAGLE ROCK HOTEL

Marcus P. Miller, 708 Board of Trade Building, Los Angeles, is preparing drawings for an eight story, Class A, apartment-hotel to be erected on Colorado Boulevard, Eagle Rock, Los Angeles County, at a cost of $1,000,000. The owner is Alonzo C. Mather, 500 South Lorraine Boulevard, Los Angeles.

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will be disagreements and conflicts to be smoothed out and many new questions will arise calling for consideration and action by authoritative bodies. And the man who wants a voice in all these things must be a member of his group organization.

It should not be necessary to urge any business man to join his trade association or some organization through which he may have a voice in the conduct of the construction industry. He should dig up the money to pay his dues and take the time to attend meetings, even if he has to cut out some social or fraternal affiliation. He can't afford to scrap his business. At the present time the most important thing of all is to join some association, keeping in mind that numbers and personal interest of members count for more than anything else in organization.

KRAFFT & SONS BUSY

The office of J. E. Krafft & Sons, architects, Phelan Building, San Francisco, are preparing working drawings for two buildings for Wellman, Peck & Company, 301 The Embarcadero, San Francisco. At Fresno a one story and basement brick warehouse and office building, damaged by fire, will be reconstructed at a cost of $35,000. At San Diego the Company will erect a new one story and mezzanine store and warehouse on K Street to cost in the neighborhood of $40,000. The structure will cover ground area 100x200 feet and will have steel frame, steel rolling doors, steel sash, etc.

RESIDENCE AND SCHOOL WORK

Miller and Warnecke, Financial Center Building, Oakland, have completed plans for a residence in Wildwood Avenue, Piedmont, for Louis Cook; a residence in the Twin Peaks District for C. C. Easley; a house on Leimert Boulevard, Oakland, for the Park Boulevard Company; a model home for the Breuner Furniture Store, Oakland, and an addition to the Alviso School, near Centerville.

HILLSBOROUGH RESIDENCE

Willis Polk & Company (A. McSweeney, architect), 277 Pine Street, San Francisco, have completed drawings for a $16,000 dwelling to be built near the country club grounds, Hillsborough, for Thomas M. Ryan, III. The house will be built as an investment.

ADDITION TO SHELTER

Arnold S. Constable, architect, 580 Market Street, San Francisco, has prepared plans for alterations to the building next to St. Patrick's Shelter on Minna Street, San Francisco. It will be used by the Shelter as a recreation room. Improvements will cost about $6000.

BERKELEY RESIDENCE

Irwin M. Johnson, 2215 Seventh Avenue, Oakland, has awarded a contract to C. M. Norgrove, Berkeley, to build an $8500 residence for Dr. Horace I. Stare at Virginia Street and Euclid Avenue, Berkeley.

PERSONAL

WALTER WURDEMANN, member of the Seattle architectural firm of Becket and Wurdemann, Edmond Meany Hotel Building returned to his home office late in June after spending six months in Los Angeles.

LAWRENCE HAUSER, a licensed Washington architect whose Seattle home is 521 Belmont Avenue North, is in San Francisco, stopping at the Glenburn Hotel on McAllister Street. In a letter to Seattle relatives he reported that he had some work, and expected to get into the architectural line before the summer is well along.

FRANK L. BAKER and J. CHARLES STANLEY, Seattle architects, are busy drawing plans for the new female ward building for the Northern State Hospital of Washington at Sedro-Woolley.

WILLIAM J. BAIN, Seattle, has felt the effect of economic recovery sufficiently to move his office downtown to quarters at 704 Textile Building, Seventh Avenue and Olive Way, Seattle.

HARRY G. HAMMOND, Seattle architect and treasurer of the Washington State Society of Architects, is occupying downtown quarters in the office suite of James W. Gibbs and Harry E. Hudson, builders and architects, on the eleventh floor of the American Bank Building, Seattle.

LOUIS J. GILL, architect of San Diego, has been reappointed a member of the California State Board of Architectural Examiners, Southern District.

HORATIO W. BISHOP, architect, has moved his office from 1245 Stearns Drive to 901 S. Wilton Place, Los Angeles.

CHARLES E. PERRY BUSY

New work in the office of Charles E. Perry, 514 Marin Avenue, Vallejo, includes a two story frame and stucco apartment building on Marin Avenue, Vallejo, to cost $15,000, and a two story stucco English dwelling at Sacramento & Carolina Avenue, Vallejo, to cost $6000, also a store and office building in Crockett for $30,000.

ADDITION TO LOS ANGELES BUILDING

Parkinson & Parkinson are completing plans for an eight story Class A addition to the department store building at 636 South Hill Street, Los Angeles, estimated to cost $350,000.

FRAME APARTMENT HOUSE

Irvine & Ebbets, 2048 Market Street, San Francisco, have completed plans for a three story and basement, frame and stucco apartment building, to be erected on the west side of Pierce Street, north of McAllister, for Patrick J. Horgan. There will be nineteen apartments with a total of forty-three rooms, the improvement to cost approximately $50,000.

The same architects have also completed drawings for a stucco dwelling in San Anselmo to cost $5000 and an apartment building in the Marina District, San Francisco, to cost $50,000. The owner is Ben Liebmann, 1555 Francesco Street, San Francisco.

GRANTED PROVISIONAL CERTIFICATE

At a meeting of the California State Board of Architectural Examiners, Southern District, June 28, a Provisional Certificate was granted to Ernest Crimi, 93 South Grand Oaks, Pasadena.

At the meeting of the State Board of Architectural Examiners, Northern District, August 1, a Provisional Certificate was granted to Leslie I. Nichols, 419 Maple Street, Palo Alto.

WORK IN FRED F. AMANDES' OFFICE

New work in the office of Fred F. Amandes, 1879-18th Avenue, San Francisco, includes a French style residence in Atherton for the Aetna Construction Company; a two story stucco residence on North Point Street, San Francisco, for T. C. Ryan, and an Italian style dwelling on Marina Boulevard, San Francisco, estimated to cost $12,000.

MARIN COUNTY RESIDENCE

W. W. Wurster, architect, 260 California Street, San Francisco, has completed plans for a one story and basement, brick veneer California style residence, to be built in Ross, Marin County, for Victor Klevin of Kentfield. Mr. Wurster has also completed plans for a modern home in Berkeley for Frederic C. Benner.

FACTORY BUILDING

Masten & Hurd, architects of San Francisco, are preparing plans for a five story building for the George W. Caswell Company at Harrison and Hawthorne Streets, San Francisco. The approximate cost of the building is $60,000.

Chapter and Club Meetings

ARCHITECTS EXCLUDED FROM CODE

Gordon B. Kaufman presided at the regular monthly meeting of the Southern California Chapter at the University Club in Los Angeles July 18.

Architects do not come under the code agreement clause in the Industrial Recovery Act, according to a legal opinion addressed to the American Institute of Architects and read at the meeting.

Some of the problems confronting the architect handling school work, which is now governed by Assembly Bill 2342 enacted on April 10, were explained by J. E. Allison. This bill provides that all plans and specifications for school buildings erected in the state must be approved by the State Architect and construction is subject to inspection by him. Alterations of reconstruction of existing buildings to cost $1000 or over are also included in this bill.

Robert H. Orr, president of the State Association of California Architects, stated that the association had advised various school districts what would be required under Assembly Bill 2391, providing for the construction of buildings to resist earthquake forces. Referring to Assembly Bill No. 2342, Mr. Orr announced that a committee had been appointed to work with the State Architect on any problems arising therefrom.

A report was made on matters pertaining to an act to regulate housing projects, which is scheduled for consideration by the legislature in Sacramento.

An illustrated talk on the technique of production was given by Park French, art director at R. K. O. Studios, following the business session.

OREGON CHAPTER JULY MEETINGS

The Oregon Chapter, A.I.A., held a regular meeting at the offices of A. E. Doyle & Associates, July 19.

Those present, were Messrs. Crowell, Whitney, Parker, Wilson, Jacobberger, Herzog, James Legge, Marsh, DeYoung, Tucker, Howell.

President Crowell presided.

The minutes of the previous meeting were read and approved.

Mr. Whitney, chairman of the Professional Practice and Competitions Committee, reported having met with the Oregon Building Congress in reference to "Peddling of Bids". Mr. Whitney made a progress report of the work of the special committee on building projects. This committee has sent letters to City Commissioner Bean as follows:

(1) Advocating construction of a hospital for communicable diseases, to be located in the County Hospital group.

(2) Replacement of Fire Station at Grand Avenue and Multnomah Street.

(3) 8 community Center Gymnasiums.
1 Boat house
1 Horse-shoe shed
1 Tennis court building
35 Tennis courts
1 Swimming tank
2 Comfort Stations (Plaza Blocks and South Park Blocks)

(4) Water front development, recommending employment of three architects to study the project with the aid of an expert on transportation.

Mr. Crowell read the Code of Fair Practice suggested by the Minnesota Chapter and the changes therein suggested by our Executive Committee. After making other changes, the Chapter decided to notify the Octagon that the Oregon Chapter desires to come under the provisions of Title I of the National Industrial Recovery Act, and advise them as to our suggestions for a Code of Fair Practice.—L.D.H.

JULY FIFTH MEETING

The Oregon Chapter, A.I.A., met at the office of A. E. Doyle & Associate Architects, at 4:30 P. M., July 5. Present were Messrs. Crowell, Doty, Sundeleaf, Brookman, Johnston, De Young, Aandahl, Jacobberger, Legge, Whitney, Holford, Johnson, Schneider and Howell.

President Crowell presided.

Mr. Whitney made a progress report for the special committee on public building construction

projects. He announced the special O.B.C. committee as: Messrs. Whitney, chairman; Holford, representing the architects; Drake, representing the contractors; Nickerson, representing the building trades, and Cook representing the building material dealers. A list of proposed building projects submitted to the City Council July 6th.

Mr. Johnson amplified the Whitney report in reference to the work of Mr. MacPike's committee on school projects, and questioned the action of the special O.B.C. committee in eliminating the small civic theater from the list of projects to be submitted to the City Council. This question was also discussed by Messrs. Aandahl, Holford, Doty and Jacobberger. It was decided to quit the civic theatre from the list for the time being.

Mr. Jacobberger moved that the Chapter go on record as favoring as wide a distribution of public work among architects as possible, and that the public offiicers, having charge of the selection of architects, be so advised by the secretary.—L.D.H.

WASHINGTON STATE CHAPTER

The annual summer meeting of Washington State Chapter, A.I.A., was held Saturday, June 24, at Point Defiance Park in Tacoma. The National Industrial Recovery Act was the subject of extended discussion. President J. Lister Holmes presided. The Tacoma Society of Architects was host on the occasion, with Ernest T. Mock, president of the Tacoma society and vice-president of the State Chapter, in charge. The dinner and business meeting were held on the park beach.

Officers of the Chapter will solicit memberships for the Washington Construction League from the Institute roster. If the total solicitation falls short of thirty, the remainder will be financed out of the chapter treasury.

The provisions of the National Industrial Recovery Act were given careful study and were the subject of a lively discussion. The members felt that the Recovery Act should receive more extended discussion at district meetings. In applying the act it was believed that the Federal government would obtain the best results by taking separate action in each of the states. Considerable attention was paid to the relationship of the Technical Advisory Board to the Emergency Relief Administration, particularly in regard to the selection of public buildings among the early projects. Private architects acquainted with regional problems are looking forward to retainers on the proposed public buildings.

The next regular meeting will be held Thursday, September 7, in Seattle.

PROPOSE NEW PLAN

Architects for the San Francisco - Oakland Bridge have proposed a new plan for the tower of the suspension bridge sector which has been approved by the bridge engineers, the department of public works has announced. The changes in the tower materially alter its appearance and were effected by reducing the angle of bracing.

Studies are being made now of the concrete masses, including the center anchorage, midway between San Francisco and Yerba Buena island which will stand 298 ft. above the water surface. Design of the island tunnel portals also is receiving consideration of the consulting architectural commission.

The architects appointed by State Director of Public Works Earl Lee Kelly are Timothy L. Pflueger, Arthur Brown, Jr., and John J. Donovan. These men are commisisoned to work with the engineers in creating a design for the crossing that will harmonize the several units into a single structure of graceful proportions.

NEW ADVERTISERS THIS ISSUE

Business is improving as evidenced by the following new advertisers who have shown their faith in the future by contracting for advertising space in this magazine, effective this issue:

W. P. Fuller & Co. (Pennvernon Window Glass).

California Rustic Fence Co.

Angier Corporation, represented by Barnes Corning Company (Brownskin Building Paper).

C. H. O'Connor & Sons. Los Angeles.

Pacific Coast Aggregates, Inc.

Alta Electric & Mechanical Company, Inc.

Piombo Bros. & Co. (Excavating Contractors).

General Roofing Company.

Norton Pacific Sales Co. (Norton Door Closer).

S. Berger (Architectural Wood Carving).

Barrett & Hilp (General Contractors).

MARRIED

Johannes Van Teylingen, architect of Great Falls, Montana, and member of the firm of Bird and Van Teylingen, joined the ranks of the benedicts Sunday, June 11, when he and Miss Ruth Lorene Kirby were married. The wedding ceremony was held at the home of the bride's parents, Mr. and Mrs. James L. Kirby of Havre.

Estimator's Guide
Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Add 2½% Sale Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—
Common, $29 to $33 per 1000 laid, (according to class of work).
Face, $70 to $85 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.00 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.75 sq. ft.
Common, f. o. b. cars, $15.00 plus cartage.
Face, f.o.b. cars, $30 to $44 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 69.00 per M
4x12x12 in.	78.00 per M
6x12x12 in.	107.00 per M
8x12x12 in.	174.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Dnraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor ..... 14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—
Sand, 40 cents; clay or shale, 80c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $75.00 per balcony, average.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 70c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 30c per square foot.
Obscure glass, 26c square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O.P. select, average, $30.00 per M.

1x6 No. 3—Form Lumber	$18.00 per M
1x4 No. 1 flooring VG	50.00 per M
1x4 No. 2 flooring	44.00 per M
1x4 No. 3 flooring	32.50 per M
1x6 No. 2 flooring	46.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1x4 No. 2 flooring	$35.00 per M
1x4 No. 3 flooring	30.00 per M
No. 1 common run T. & G.	30.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdl.e
Redwood, No. 2	.70 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$120.00 M ft.
1 1-16x2¼" T & G Maple	132.00 M ft.
⅝x3½ sq. edge Maple	140.00 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$200.00 M	$150.00 M	$180 M
Sel. Qtd. Oak	140.00 M	120.00 M	135 M
Clr. Pla. Oak	135.00 M	107.00 M	120 M
Sel. Pla. Oak	120.00 M	88.00 M	107 M
Clear Maple	140.00 M	100.00 M	

Laying & Finishing 13c ft. 11 ft. 10 ft.
Wage—Floor layers, $7.50 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.90
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Brownskin, 500 ft. roll	4.00
Pro-tect-o-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.10 per 100 ft.
Sash cord com. No. 8	1.25 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	2.10 per 100 ft.

Sash weights cast iron, $50.00 ton
Nails, $3.25 base.
Belgian nails, $2.75 base.

Millwork—
O. P. $80.00 per 1000. R. W., $90.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $4.00 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.50 each.
Dining room cases, $5.50 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $9.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work ..... .28c per yard
Three-coat work ..... .38c per yard
Cold Water Painting ..... 10c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.
1 ton lots, 100 lbs. net weight 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots..... 11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots..... 11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots..... 13c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch..... $ .85 lineal foot
8-inch..... 1.25 lineal foot
10-inch..... 1.40 lineal foot
12-inch..... 1.60 lineal foot

Plastering—Interior—

Yard
1 coat, brown mortar only, wood lath....$0.36
2 coats, lime mortar hard finish, wood lath ..... .45
2 coats, hard wall plaster, wood lath.... .50
3 coats, metal lath and plaster ..... .90
Keene cement on metal lath 1.10
Ceilings with ¾ hot roll channels metal lath ..... .65
Ceilings with ¾ hot roll channels metal lath plastered 1.30
Shingle partition ¾ channel lath 1 side .60
Single partition ¾ channel lath 2 sides 2 inches thick 2.00
4-inch double partition ¾ channel lath 2 sides 1.20
4-inch double partition ¾ channel lath 2 sides plastered 2.25

Plastering—Exterior—

Yard
2 coats cement finish, brick or concrete wall ..... $ .90
2 coats Atlas cement, brick or concrete wall 1.15
3 coats cement finish No. 18 gauge wire mesh 1.60
3 coats Medusa finish No. 18 gauge wire mesh 2.90
Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped)..... .17
2.5-lb. metal lath (galvanized)..... .20
3.4-lb. metal lath (dipped)..... .22
3.4-lb. metal lath (galvanized)..... .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $53.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.50 per square for 30 squares or over.
Less than 30 squares, $5.75 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$90 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel; average building, $87.00.

Steel Reinforcing—

$75.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

*Established by Special Board

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job aite.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

CODE FOR GENERAL CONTRACTORS

An average reduction of 27 per cent in the working hours of construction labor and the establishment of local and regional minimum wages meeting the approval of labor itself, are provided for in the code of fair competition for general contractors, submitted to Administrator Hugh S. Johnson, by the National Industrial Control Committee for General Contractors.

The code, when approved, will govern the expenditure of the $3,300,000 provided in the public works construction program, as well as all private construction during the next two years.

The proposed code provides for a 150-hour month, as compared with an estimated present average of 206 hours per month, and for minimum rates of wages established with the approval of the President either regionally or locally by mutual agreements between truly representative groups of employers and employees.

As a temporary stop-gap, or until the mutual agreements can be arrived at through collective bargaining and approved by the President, the code provides that the minimum wages established by the various state highway departments in conformity with the National Industrial Recovery Act shall be invoked. These rates have been used as the minimum on all Federal Aid highway work during the past year.

The minimum rates, as at present set, average 35 2-3 cents per hour in the 26 states that have a statewide minimum for unskilled labor, whereas for the twelve states which vary the minimum within their borders, the average variance is from 29 1-3 to 41 1-4 cents per hour.

"It is intended that the minimum rates set by the states shall be used by general contractors only until mutually satisfactory minimum wages for each locality can be reached through collective bargaining in line with the spirit of the National Industrial Recovery Act," according to A. C. Tozzer of New York, chairman of the National Industrial Control Committee for General Contractors and president of the Associated General Contractors of America. "As these agreements are reached, one by one, they would supercede the minimum rates set by the states and eventually establish a nation-wide system of minimum rates fairly arrived at through collective bargaining," he stated.

In addition to its revolutionary labor provisions, including compulsory attention to accident prevention and labor welfare, the proposed code deals drastically with practically all of the known competitive abuses within the general contracting business. It definitely outlaws the unfair systems of rebates and "bid peddling" and makes mandatory the filing of performance records and credit information by general contractors and the keeping of adequate accounts showing the allocation of the funds received and disbursed on account of each improvement. It also provides that a general contractor shall pay all subcontractors, material vendors and others not less than their proportionate amount of partial payments made by the owner during progress of the work and final payment of the unpaid balance not later than ten days after the general contractor has received final payment from the owner.

To provide for administrative control within the general contracting business, the code establishes a National Industrial Control Committee for General Contractors, which would have full authority to make all needful rules and regulations for the enforcement of the code's provisions.

NEW FEDERAL BUILDING PROGRAM

Private architects and engineers throughout the country will be engaged by the Treasury Department to prepare the plans and specifications for a large Federal building program which may reach a total of $200,000,000. L. W. Robert, Jr., Assistant Secretary of the Treasury, has adopted this policy in order that professional men who have not had employment will benefit by the large expenditure for new Federal buildings, the design and construction of which come under the authority of the Supervising Architect's Office of the Treasury.

For the purpose of spreading employment as far as possible among architects and engineers who, preferably, have had some previous experience in public building work, Mr. Robert has requested the co-operation of American Engineering Council and the American Institute of Architects in enrolling qualified individuals and firms. His purpose is to engage on every building architects and engineers resident in the State in which it will be erected.

The Treasury Department, with the co-operation of the American Institute of Architects, is assembling the records of architects throughout the country. Each known architect has or will receive a prequalifiaction blank, which should be forward to reach the Treasury Department promptly.

As the procedure adopted for enrolling architects could not be utilized satisfactorily to obtain the same character of information concerning engineers, the American Engineering Council has been requested by Mr. Robert to compile state lists of engineers and engineering firms that customarily engage in construction of buildings of the monumental character usually typifying those built by the Federal Government.

Through its member-organizations and other technical groups, Council inaugurated its canvass several weeks ago. The lists are being prepared so that Council will be in a position to submit to the Treasury Department the names of competent engineers in any and all states when there is a call for the services which they are qualified to render.

Any qualified engineer desiring to participate in the Treasury Department's building program should send to L. W. Wallace, Executive Secretary, American Engineering Council, 744 Jackson Place, N. W., Washington, D. C., a complete statement, in duplicate, of his professional record, with a citation of significant references.

American Engineering Council's function in enrolling engineers for the building program is to make available lists of competent engineers and firms and not to select and employ men. These are functions of the Treasury Department.

American Engineering Council is gladly co-operating with Assistant Secretary of the Treasury, Mr. Robert, and the American Institute of Architects in making available to private engineers and architects construction work done under the direction of the Supervising Architect's Office.

ARCHITECTS SELECTED

The Long Beach board of education has commissioned Long Beach architects to prepare preliminary plans for reconstruction of school buildings as follows:

Clarence N. Aldrich, 1834 Dawson Avenue, Signal Hill school.

H. Alfred Anderson, 30 Pine Avenue, Los Ceritos school.

Edwall James Baume, 907 Heartwell Building, Jane Adams school.

Earle R. Bobbe, 907 Heartwell Building, Edison elementary and Junior high.

Harold E. Burkett, Jergins Trust Building, Longfellow school.

James R. Friend, 2937 E. 7th St., U. S. Grant school.

C. Hugh Gibbs, 202 Pacific Southwest Building, Fremont school.

Herrald & Knox, 4139 E. 11th Street, Burnett school.

Rolland H. Holbrook, 229 W. 8th Street, McKinley school.

Siebert & Hedden, 420 Security Building, Vocational school.

W. L. Hawk, 376 Newport Avenue, Horace Mann and Naples schools.

Piper & Kahrs, 1224 Linden Avenue, Temple school.

E. L. Mayberry, 3910 E. 3rd Street, Lowell Junior high.

Glenn E. Miller, 202 Pacific Southwest Building, Fremont school.

Roger K. Nissen, 501 Termino Street, Seaside school.

Martin C. Parker, 206 E. 4th Street, John Muir school.

Raymond A. Sites, Kress Building, Bryant school.

William K. Webb, 1229 E. 10th Street, Starr King school.

Kenneth S. Wing, 501 Termino Street, Burbank school.

The following structural engineers were awarded buildings:

Aaron Smith, 3726 Lemon Avenue, Atlantic Avenue school.

William H. Baker, 1106 Central Building, Los Angeles, Lafayette school.

Van Alstine & Ferris, 410 E. 9th Street, Garfield and Whittier schools.

GEORGE H. CARSLEY

George Hollis Carsley, past president of the Montana Architects Association, died at his home in Helena, Montana, July 4, aged 63. Although he had been in failing health for more than a year, his death was unexpected. Mr. Carsley was a member of Helena Lodge No. 3 of the Masons and a past master of the Scottish Rite bodies, past commander of the Knights Templar and past patron of the Eastern Star. He was a member of the Helena lodge of Elks.

Mr. Carsley was born in Wisconsin and received his professional education at the University of Minnesota. For 20 years he was associated with Cass Gilbert. During his 20 years' residence in Montana, Mr. Carsley had gained a prominent place in his chosen profession and had designed or collaborated in the planning of many outstanding structures. Among them are the Placer hotel, St. Peter's hospital, the Montana club and Algeria Shrine temple in Helena, the gymnasium and Corbin hall on the campus of the state university at Missoula, and the Metals bank building in Butte.

ROOFING BUSINESS IMPROVES

Harry Hennings of the General Roofing Company, Oakland, reports business on the improve. He has been awarded several roofing contracts the last month, one of which calls for a large state installation..

DRAFTSMEN MUST EAT

by
ROLAND A YAEGER in Pencil Points

EVERY student of architecture has undoubtedly had a very similar experience in the endeavor to find work in his or her profession following graduation, and is forced to the conclusion that to find work in a registered, qualified, architect's office is an extremely difficult task. If one is not so fortunate as to be in the employ of a reputable office, it is only natural that he should seek employment in some other field related to his chosen profession. In the majority of cases, that is with the contractor.

While in college, the ethics of our great profession were continually being drummed into us, and I am sure that every student of architecture has a realization of what these ethics are by the time of graduation. We all set out to uphold and maintain the high standards and ideals which have been handed down to us. The majority of graduates still desire to maintain these ideals, but just don't have the opportunity.

In college we were warned of the degrading influence of the speculative builders and were shown, by examples, the architectural abtrotions they had created and were selling to ignorant people. We agreed and still agree that such practice is ruinous to public taste, and more ruinous to the legitimate practice of good architecture. Knowing all these things, it is only natural that the architectural draftsmen have tried to avoid the speculative builder, or the contractor building on a plan service connected with his corporation.

Unfortunately, most architectural draftsmen, upon completion of their college courses, find that their financial indebtedness is considerable, and notes are due here, financial obligations must be met there, and they simply must meet them. The only way to meet them is to earn the necessary money, unless one is so fortunate as to be among the minority who have sufficient funds to meet these obligations.

To earn this money, whether for financial obligations, or for the necessity to live, it is only natural to seek work in the profession studied. To find it is the big task.

Every architect's office is visited, correspondence is sent to out-of-town offices, in hope of locating work, but there *is* no work. About the time you are ready to give up, along comes a speculative builder or contractor, offering you the position of draftsmen for his business. Of course, it is not what you want—but all that you can get. You finally conclude that it is at least work in the direction of your profession. Beggars can't be choosers, and the experience, undoubtedly, will do you some good. So you accept. You start out in hope of maintaining your high ideals, only to have them broken down by the money grasping speculator. "We can't do this or that, it would cast too much," or "Take this plan and knock out an English elevation or a Colonial, or whatnot, and have it ready when I get back later this afternoon." Preliminary studies, perspectives, models, or full-size details are things unknown. The only desire seems to be to get as many elevations as possible from a cut and dried similar plan—and get them out as soon as possible, so designed as not to disrupt the stereotyped ten-inch planchard and six-inch facia, or usual size stock windows and trims.

Such being the case, the young draftsman sets out to do the best that he can under said conditions, and it need not be mentioned that at best, the accomplishments are not looked upon with any pride. The only consolation is that if he wasn't designing the things, somebody else would be doing it, and possibly not as well; and, aesthetically, the speculative builders' houses are now better than the awful looking things constructed previously.

One might argue that such draftsmen are not the best, but many men that I know under the above conditions are exceptionally fine draftsmen —a type of men not lacking in culture or training. Financial embarrassment necessitates that they must earn money, and that is the only means they have of meeting their obligations.

This condition is undoubtedly worse at the present time, due to the depression. Of course, the young draftsman anticipates a recovery of the building industry and looks forward to the time when he can be in the employ of a registered, qualified architect.

The thing that bothers these men most is that they feel they are not maintaining the high ideals their profession encourages, but are forced, through necessity, to be the tool of some money grasping individual who doesn't give a hoot for the principles of the architectural profession.

Advice from experienced men in the practice of architecture might put new blood into these men, or at least guide them through the storm.

OUR BLIGHTED CITIES

AMERICAN cities are obsolete, according to Clarence S. Stein of the New York Chapter of the American Institute of Architects, who urges that Federal expenditures to relieve unemployment should not be used 'in a futile attempt to revise a bankrupt past," but rather to build a solid foundation for the future.

Declaring that the houses and cities of the past will not do, Mr. Stein, former chairman of the New York Commission of Housing and Regional Planning, asserts the need for a new technique of city building, in which individualistic haphazard methods are discarded.

"The framework of the city plan and every detail down to the last house and the view out of the windows of that house should be conceived of as a related and inseparable wholesome and beautiful background for living and working," he explains.

"Ideally, these should be a single operation from raw land to complete neighborhood community. All waste of land—subdivision, sale of lots, individual construction of separate dwellings should be replaced by a single large-scale operation."

"The bankruptcy that is faced by our larger cities is not so much the result of municipal corruption as of the double load of supporting the unremunerative slums and blighted districts in the heart of our cities and the vast expansion of highways, public utilities and subways that was necessitated by extravagant municipal growth to serve unrestricted real estate development," Mr. Stein says in a statement made public by the Institute.

"Blighted neighborhoods that exist in every large city throughout the country are the result of an antiquated individualistic method of planning, building, land ownership, and community disorganization.

"In Detroit, the seventeen square miles that form the central core of the city are all blighted with the exception of a few small groups of modern buildings. In Cleveland, the Housing Committee of the Chamber of Commerce and the City has found twenty-two of the seventy-one square miles of the city both unfit places for human living and unremunerative as property.

"The Lower East Side of New York lost 53 per cent of its population between 1910 and 1930. In Philadelphia, the population has been drained out of a constantly increasing central area. Practically every ward within a three-mile radius of Philadelphia City Hall lost population between 1920 and 1930, while in the district between Vine and South Streets and the two rivers, there are fewer inhabitants than in 1830.

"Practically nothing constructive has been done to rid us of the social blight of our cities—the slums. We are now discovering that these slums are also an economic blight. They are causing colossal financial loss both to their owners and to the city. Unremunerative properties will not pay taxes or, at best, greatly decreased taxes.

"In old rundown areas of our cities the municipalities are receiving insufficient revenue to cover the cost of upkeep of public utilities, highways, to say nothing of schools and playgrounds and a share toward carrying the colossal load of transportation costs.

"On the outskirts of most of our cities are vast areas which were subdivided and supplied with endless miles of pavements, sewers, and other public utilities during the boom years before 1929. These improvements have not been paid for excepting in promises. A large part of the lots have not, and probably never will be built upon and the owners are tax delinquent.

"According to Prof. Ernest M. Fisher, in most urban communities, the number of subdivided lots is nearly twice as great as the number in use. If land subdividers and speculative real estate developers will not put an end to their obsolete methods of individualistic development, the municipalities must do so in self-defense.

"Housing produced by these antiquated methods can have no permanent value, either monetary or human. The exceptional speculator may have made his pile in real estate, but generally he has done so by selling his buildings quickly before they became obsolete because of shoddy construction, changed standards of living, or neighborhood decay.

"But even if this type of housing served in the busy era that has just passed, it will not do for this age in which the use of leisure time is our fundamental problem. For with the growth of leisure we demand more spaciousness—space for recreation, for beauty, for nature. We need it within the city as well as in the suburbs. The old methods of speculative individualistic real estate development cannot supply it. A new technique is required.

"We have all looked upon the present depression as nothing but a curse. The time has come for action. The opportunity to start at once to build new communities and replace obsolete blighted areas is offered by the National Government under the Industrial Recovery Act. Its purpose is primarily to help care for the growing army of unemployed. The Government will spend billions. This it cannot escape no matter how strong the demand for economy.

"The great problem is how to prevent this money from being wasted. Shall it be invested in a futile attempt to revise a bankrupt past, or in building the solid foundation for the future? The answer we give to that question depends on how well we understand the nature of the present depression.

"Depressions of the past have come from the poisoning of the economic system as a result of too much gourmandizing. The cure has been temporary starvation diet. It is getting us nowhere because the diagnosis of the disease is wrong. We are not passing through a depression like other depressions. The ailment of the world is not temporary. The old world is dying and in dying it is giving birth to a new era. Or perhaps it is better to say that it is passing through a complete metamorphosis as the larva does when it becomes a moth.

"Architects will go back to work in another world. The old scenery they painted in 1920 will not fit the realities of this changed world. Unless architects have some idea of what the play is about they are going to make a pretty poor job of the setting and the costumes.

"Some bunkers and realtors think that all that is needed is to recut the old costumes and the old sets and give them a modern touch. So our architectural magazines are filled with articles about reconditioning of old buildings. That will not get them anywhere. Victorian back drops cannot be made to serve as setting for this new age. Patching will not do the job.

"We need something much more fundamental. Let us face the facts. Our cities are obsolete. The physical environment that we have helped to build is out of date. When Ford or any other great industrialist finds his factory no longer serves efficiently to build his new model, he scraps it and builds anew. But our city developers try to patch the obsolete machines. As a result, the physical structure of our 19th century cities fits the needs of our 20th century life about as well as a covered wagon would serve a present day continental tourist.

SAN JOSE CANNERY

The Continental Can Company will spend $150,000 in the construction of a cannery, warehouse and office building at 8th and Taylor Streets, San Jose. The Austin Company of California have been awarded the contract.

PALO ALTO RESIDENCE

Plans have been completed by Charles K. Sumner of Palo Alto for a $12,000 home to be built in Crescent Park, Palo Alto, for Mrs. Henrietta S. Young. House will have nine rooms, four bathrooms, oak floors, steel sash, and two car garage.

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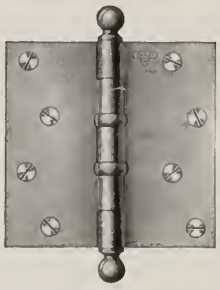

VICTORY FOR MASONITE

The Masonite Corporation of Chicago, has the exclusive right under its patents to manufacture hard boards of pressed wood not only from fibers obtained from wood of trees but from any woody material when made by the Masonite process. This opinion was given by the United States Circuit Court of Appeals in Philadelphia in reversing the finding of the District Court in a suit brought by Masonite against the Celotex Company.

The Masonite patent covers a process for taking wood or woody material apart and putting it together again without requiring the addition of any foreign binder substance in such a way that, according to the court, "practically all the advantageous characteristics of wood are retained, some of the disadvantageous characteristics are eliminated and new characteristics of its own added."

The court pointed out that under the Masonite process "the fibers put back as the patent teaches do in some way graps their fellows and hold them fast."

"That they could be made to do this was a challenge to nature," it said. "And it was new. That it worked is shown by the acceptance of the plaintiff's 'Presdwood' boards by the trades from about 5,000,000 square feet in 1927 to about 50,000,000 square feet in 1931. The value of Mason's contribution to industry has been recognized by a grant of medals by the Franklin Institute and the Association of Pulp and Paper Industry."

Holding that the District Court had erred in limiting the Masonite invention to wood and in defining wood as the wood of a tree, the appellate judges maintained the word "wood" and the term "woody material" cannot mean the same fiber source.

"Each has a meaning of its own," the opinion said, "and to each, properly defined, the patentee is entitled. We think, and therefore hold, that the claims cover any wood or woody material which yields wood fiber in kind and quantity that will produce an article with the characteristics disclosed by the patent when made in the way the patent teaches."

"We make this finding," the opinion said, "against the defendant's (Celotex) contention that its bagasse fibers are bonded together not by lignins but by hydrated celluslose produced by beating and that its product (although advertised as having a tensile strength of 4000 pounds to

the square inch, being in some respects analogous to steel plate and having a high water resistance) is nothing more than thick paper, made by known paper-making procedure."

In holding that the patent includes the use of "woody materials" as well as wood, the court ruled that bagasse, a sugar cane residue used by the Celotex Company, is such a "woody material", and that the hard boards made of bagasse by the defendant Celotex Company "possesses substantially all the characteristics of the hard board of the patent", and infringes the claims of the Mason patent.

TRADE LITERATURE

The Hamilton Manufacturing Company of Two Rivers, Wisconsin, has issued a very complete and indexed catalog, No. 10, illustrating their drafting room furniture, which includes the Calumet plan file system. This firm maintains a branch factory and office at Los Angeles, California.

* * *

A short descriptive brochure has been put out by the United States Radiator Corporation, Detroit, Michigan, on its new product, the Capitol oil burning boiler which is suitable for large and small residences.

* * *

The Universal Form Clamp Company of Chicago, has issued a most interesting and attractive brochure, "Facts About Chicago's World Fair, 1933." A number of these were sent to the Barnes-Corning Company, their distributors in San Francisco, who made covers for the brochures of Brownskin Building paper, an Angier Corporation product. Architects will find interest in both the brochure and the unusual cover.

NEW LOW COST WIRIING

Xtensionduct is the new name of material for an electrical wiring method announced by the National Electric Products Corporation of Pittsburgh, Pa.

Xtensionduct is a metal duct for extending existing outlets neatly, reasonably, simply, in almost an invisible manner and at very low cost of material and labor. It is designed for extension of a circuit only, and therefore, takes two No. 14 wires which are laid in the duct and the cover snapped on. The duct is finished in a neutral brown or mahogany and can be changed easily to any color by one coat of quick drying enamel.

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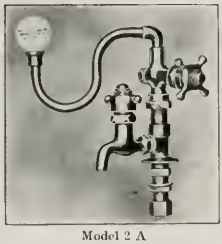
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The examinations will be held in Los Angeles, San Francisco, Sacramento and San Diego. Applications must be filed on or before August 19 and must be made out on official blanks procurable in Los Angeles at 302 State Building; in San Francisco at 105 State Building; in San Diego at the Chamber of Commerce, 180 Broadway; in Sacramento at 319 State Capitol, or by writing to any of the named offices. All applicants must be full U. S. citizens. Preference will be given veterans, proof of actual service to be submitted with applications.

The following information in connection with the examination is furnished by the Division of Personnel and Organization:

Purpose of Examination: To recruit needed eligibles, the eligible list resulting from the examination of May 6, 1933, having been insufficient to meet the present demands of the Division of Architecture.

Age Limits: 30 to 60 years. On the recommendation of the appointing power, the maximum age limit may be waived for applicants possessing exceptional qualifications.

Definition: Under the direction of the Supervising or Principal Structural Engineer, to do the more difficult types of technical and supervisory structural engineering work involved in the design and in the examination in the field of major structures; and to do other work as required.

Typical Tasks: Making examinations of important public buildings to determine their ability to withstand earthquake, fire or wind and to safely carry such loads as may be imposed; exercising general supervision of field construction work and supervising work in the office in connection with the checking of designs or in the preparation of drawings and specifications; visiting work under construction to determine whether materials and workmanship comply with the plans and specifications as well as passing upon the adequacy of inspection provided for the job; giving consulting assistance to architects, structural engineers and contractors, as well as school authorities with ref-

erence to approval or disapproval of the work and to interpret requirements set up by the State; checking designs, specifications and drawings; investigating foundation conditions; preparing plans and specifications for buildings, bridges, reservoirs and water supply and sewage disposal plants; preparing tentative designs of structures for budget estimates; making reports of investigations.

Minimum Requirements: Either (1) education equivalent to that represented by graduation from college with major work in engineering and five years of experience in structural engineering work involving the performance of increasingly complex duties, two years of which shall have been in charge of structural engineering design, or (2) some other equivalent combination of engineering education and similar experience of equal or greater length; possession of a valid certificate to use the title of "Structural Engineer" under the statute regulating the practice of Civil Engineering in California; thorough knowledge of stress analysis, including the design of both statically determinate and indeterminate structures; thorough knowledge of the strength, use and properties of the materials of building construction; wide knowledge of standard specifications, loadings and of building codes applying to building and other engineering structures; ability to inspect and to judge the quality of structural work in the office and field; ability to size up situations and people accurately, to adopt an effective course of action, and to get along well with others; ability to write clear and accurate reports and technical specifications; ability to lay out work for others, to direct them in their work and to get them to work together effectively; initiative, accuracy, tact, and good judgment in structural engineering matters.

Additional Desirable Qualifications: Some experience in charge of construction work; experience in plan checking in a governmental building inspector's office, preferably in a large city.

Scope of Examination—Subject:

(1) Practical written test of (a) knowledge of stress analysis including the design of both statically determinate and indeterminate structures; strength, use and properties of the materials of building construction; standard specifications, loadings, and of building codes applying to building and other engineering structures; (b) ability to inspect and to judge the quality of structural engineering work in the office and field; to write clear and accurate reports and technical specifications; to get along well with others; to lay out work of others and to direct them in it. Required minimum rating, 70 per cent.

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(3) Personal traits and fitness based on personal interview. Required minimum rating, 70 per cent.

MANY APPLICATIONS REJECTED

Col. Carlos W. Huntington, state registrar of contractors, says that approximately 17 out of every one hundred new license applications filed by California contractors during July were either rejected, or ordered held for further investigation.

With approximately 100 new licenses being issued each week since July 1, Registrar Huntington said the heavy ratio of denials was due to rigid enforcement of amendments to the state contractors' act, voted by the last legislature and approved by Governor Rolph.

Indicating increased activity in the building field, Col. Huntington said that approximately 1500 new licenses had been issued to contractors since July 1, in addition to the renewal of licenses of more than 16,000 contractors licensed at the close of the last fiscal year.

"Under rigid enforcement of amendments to the contractors' act," said Huntington, "it is necessary that we reject a large percentage of the new applications because of the failure of the applicants to prove his integrity and honesty.

"All applicants are required to prove their honesty and integrity, in order that the public may be given the greatest possible measure of protection. Thus, the denial of these applications, without prejudice will work no hardship upon a legitimate contractor and aids in weeding out the crooked and irresponsible operator.

"The applications denied in this manner are re-referred to a field investigator, and it is likely that many of the applicants will be able to qualify and eventually obtain their license," he said.

PROVISIONS OF RECOVERY BILLS

The following is an outline of the provisions of two California trade recovery bills recently passed by the Legislature, the measures to be effective for a two year emergency period:
A. B. 2432 PROVIDES THAT:

1. A State and National emergency exists.
2. All intra-state business in California affect-

ing inter-state business shall operate under the proper Federal NIRA code.

3. The labor provisions of NIRA and this act shall not supersede any more favorable labor agreements made through collective bargaining in California and shall not supersede existing California labor statutes or public works statutes.

4. Violation shall constitute a misdemeanor punishable by a fine not to exceed $500, or by imprisonment not to exceed 6 months, or both, and each day of continuance shall constitute a separate offense.

5. Public bodies awarding contracts for services and supplies shall require contractors to give a 15% preferential to supplies and materials manufactured under a proper code, and shall give a 10% preferential to bidders for public supplies, so operating.

6. The act shall be in effect for 2 years and may be terminated sooner if the Governor by proclamation shall so declare.

A.B. 2400 Provides That:

1. A State and National emergency exists.

2. All intra-state industry and business not operating under a Federal NIRA code shall be entitled to form state codes in the several trade groups and submit such codes to the Chief of the Division of Corporations for approval.

3. If such codes comply with the provisions of the act and if the Director of the Department of Industrial Relations concurs, the Chief may then approve such code or codes and all persons, firms or corporations doing business in California in the trade group covered by the code must comply with its provisions.

4. The Labor Section of the act is similar to Section 7 of NIRA and the labor Section of A.B. 2432.

5. A filing fee of $25 shall be paid for each code submitted. Each employer under a state code shall pay a license fee of not to exceed 25c per employee per year for each employee on the payroll at the time the Chief declares the fees to be due.

6. Violation shall be a misdemeanor punishable by a fine not to exceed $500, or by imprisonment not to exceed 6 months, or both, and each day of continuance shall constitute a separate offense.

7. The act shall be in effect for 2 years, or less if the Governor by proclamation shall so declare.

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UNIFORM BUILDING CODE

The technical experts concerned with the preparation of a uniform building code for the state of California met early in August in the offices of Edwin Bergstrom, Los Angeles, to consider the tentative final draft. The first sessions were devoted to consideration of special features of the code, such as classification of buildings, engineering standards for design to resist earthquakes, structural materials and fireproofing.

Drafting of the code has covered a period of five or six years, approximately 100 representatives of various technical societies participating, including the American Institute of Architects, American Society of Civil Engineers, Associated General Contractors of America and Pacific Coast Building Officials Conference. The code is sponsored by the California State Chamber of Commerce which has provided the necessary funds to carry on the work.

The technical editors of the code are Edwin Bergstrom of Los Angeles and Henry D. Dewell of San Francisco. Howard Robertson of Los Angeles is legal counsel. David J. Witmer of the American Institute of Architects, is chairman of the executive committee. Other members and alternates are:

John B. Leonard of San Francisco, vice-chairman; Melville Dozier of Los Angeles, secretary; and Dr. R. R. Martel, alternate; William Simpson of Los Angeles, Southern contractor member, with Harold Crowell as alternate; Walter Putnam, engineer and building official of Pasadena, Southern representative of the Pacific Coast Building Officials' Conference; John D. Donovan of Oakland, northern representative of the A.I.A.; S. P. Koch, Berkeley building official, and A. H. Wilhelm, Northern representative of Associated General Contractors.

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NEXT MONTH'S FEATURES

Samuel Hobbs, field engineer of the Portland Cement Association has prepared an exceptionally interesting and timely article on "Concrete in Repair and Reconstruction of Buildings", which will be published in the September ARCHITECT AND ENGINEER. Illustrations of repairs to buildings damaged by the recent Southern California earthquake, will accompany Mr. Hobbs' paper.

Elmer Grey will contribute an article on "The California Street Art Center of Pasadena." Reginald D. Johnson's Santa Barbara house for J. Henry Behrens will be another interesting feature of the September issue.

SEATTLE RACING PLANT

B. Marcus Priteca, architect of Los Angeles and Seattle, has completed plans and specifications for a horse racing plant at Seattle. Plans were commenced in his office in Seattle June 24, and actual construction was started August 1.

The site is known as the Nelson Ranch, 12 miles from the center of Seattle, on the Tacoma Valley road, containing 150 acres. The work includes 70,000 yards of grading, a mile track, 100 feet wide in the racing stretch, banked on the curves and having starting chutes and modern racing gate equipment, steel frame grandstand 300 ft. long, seating 4000 people, mutual betting equipment, public recreation and dining accommodations, including two 50-ft. bars.

The clubhouse contains large lounge, dining-rooms, private dining-rooms, kitchens and two-story covered verandah. There will be stables for 720 horses.

The entire acreage is enclosed with modern fence 8 ft. high and approximately a mile and a half in length, with a flagpole every 200 feet.

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ARCHITECTURAL AND BUILDING PATENTS

DRIVE-IN THEATER. Richard M. Hollingshead, Jr., Riverton, New Jersey.

A novel open air movie theater has recently been invented in which the patron can see the show while seated in an automobile. Instead of the usual seats there are spaces alloted for the automobiles so they can be lined up in successive rows without obstructing the view of the rear rows of automobiles so the patron has a clear vision of the screen while seated in the car.

CEMENT FOR FLOOR COVERINGS. Leo Fleischman, New York, N.Y.

A cement for floor coverings has been developed which consists of about 30 parts of a high melting point para coumarone resin, about 15 parts of benzol and approximately 55 parts of clay.

BUILDING MATERIAL COMPOSITION. Ira E. Cramer, Beaumont, Tex.

A new material for molding into building blocks has been developed which consists of petroleum coke lump 3 parts and binder 1 part, said binder comprising Portland cement and petroleum coke fines.

BUILDING FOR INDUSTRIAL PURPOSES. Edgar Honig, Berlin, Germany.

This invention relates to that type of building in which provision is made for the more or less continuous conveyance of goods, as in warehouses, garages or factories in which the article under production is manufactured in successive stages and for this purpose is conveyed, for example by means of conveying belts or other suitable transport means from one shop to another.

In buildings of this kind it has hitherto been usual to build up the different floors in one block, and to provide inclines or approaches leading from the one story to the next and situated at

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the centre of the building, or to dispose the different floors, which are also connected by inclines or approaches, in step-like fashion about a central point.

These arrangements are accompanied by the disadvantage that, for example in the case of factories, either the raw material is introduced at the bottom of the building and the finished article emerging at the top requires to be conveyed again to the ground floor by special transport means, or special transport means are required to convey the raw material to the top of the building, so that the finished article will emerge at the bottom.

ART AND PRODUCT OF MASONRY JOINT FILLERS. Charles F. Lytle of Sioux City, Iowa.

Charles F. Lytle of Sioux City, Iowa, has developed a new and improved material used for expansion joints in masonry. The material comprises a mixture of sawdust with heated asphaltum. The mixture will be found, while hot, to readily conform to contiguous surfaces and adhere to them, and when cold and set will present an exposed or wear surface well adapted to resist usage.

COMPOSITE BEAM. Ralph J. Adamy of Bethlehem, Pennsylvania.

A novel and interesting composite steel and wood beam has recently been patented by Ralph J. Adamy of Bethlehem, Pennsylvania.

The steel portion of the beam is rolled S-shaped with all the corners being sharp. Within the two hollows of the section are placed lengths of filler pieces made of wood. The filler pieces are forced in position under pressure so that they will stay firmly in place.

In practice the beam is laid with the exposed edges of the wood filler pieces on line with the floor or ceiling. The advantage of this construction is that while the steel portion of the beam is utilized for strength, the wood filler pieces are used to nail on the flooring or the ceiling structure.

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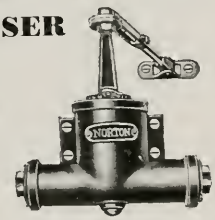

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APARTMENT OWNERS TO MEET

Apartment house owners from every section of the United States have been called to Cleveland, O., for a national convention August 21, 22 and 23, there to form a permanent national organization and to draft a code for this industry as required under the National Recovery Act.

Varied problems confront apartment house owners and those in the Cleveland association who called the convention hope to have considered all questions and bring about results favorable to all owners, regardless of their location and their peculiar type of problems.

Insurance, mortgage loan people and all allied with the apartment house business are being asked to Cleveland by George T. Sharp, president of the Apartment House Owners Association of Cleveland.

The code as approved in Ohio will be submitted to the convention in Cleveland as the model for the national code and will be

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presented before the assembled apartment house owners. Those familiar with NRA feel that what Summerhays submits will be readily acceptable.

The national organization is to be formed so that the code can be submitted by a well organized national industry which affects so many millions of people.

With the code problem solved the convention delegates then can discuss and iron out many of the intricate questions which confront them.

Favorable response has been received from many parts of the country regarding the convention and a big attendance is looked for. Special excursion railroad rates are to be set up for convention delegates.

For some time it has been the opinion of many that the apartment house business has so many angles peculiar to itself that formation of a national organization is essential so that these questions can be tackled as they should be. The meeting called for Cleveland provides the opportunity for the formation of such an organization and such action will be entirely in line with the new relations of the government and the different industries.

MEDITERRANEAN ARCHITECTURE

The home of J. Henry Behrens, Santa Barbara, designed by Reginald D. Johnson, will be illustrated in detail in THE ARCHITECT AND ENGINEER *for September*

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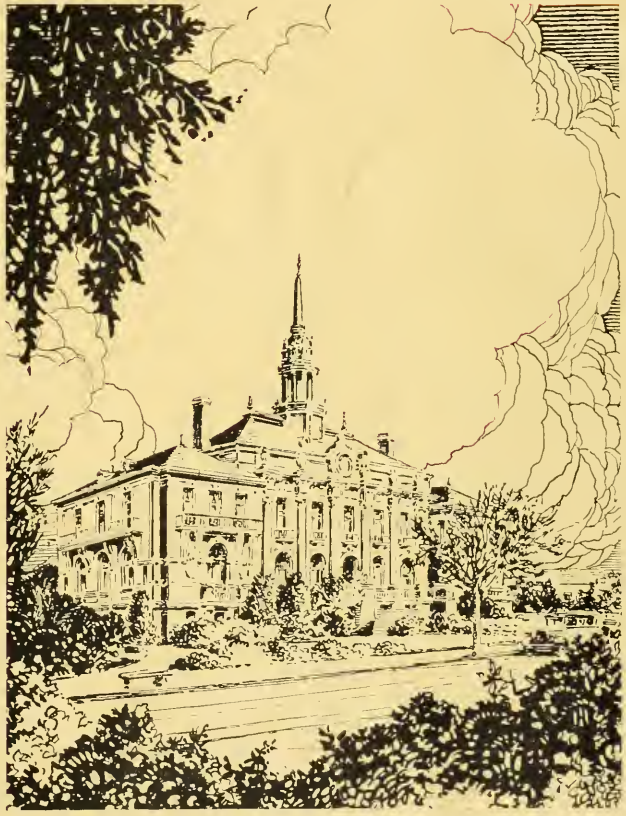

SEPTEMBER 1933

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A glance at the following chapter headings will give some idea of the scope of this volume.

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1—Measurements of Building Work. 2—The Quantity System of Measuring. 3—Speed and How Affected by (1) Climate; (2) Hand vs. Machine Labor. 4—Excavation and Filling. 5—Piling and Underpinning. 6—Concrete Work. 7—Reinforced Concrete. 8—Stone, Gravel, Marble and Terra Cotta. 9—Brickwork. 10—Cement Stone. 11—Structural Iron and Steel. 12—Tile and Gypsum Fire-proofing. 13—Steel Sash and Steel Buildings. 14—Plaster. 15—Carpenter and Joiner Work. **16—Millwork. 17—Glass. 18—Roofing. 19—Sheet Metal Work. 20—Hardware. 21—Painting. 22—Plumbing and Gas Fitting. 23—Heating. 24—Electric and Conduit Work. 25—Tiling. 26—Asbestos Materials. 27—Dairy Barns. 28—Silos and Tanks. 29—Municipal Work. 30—Weights and Measures. Index.**

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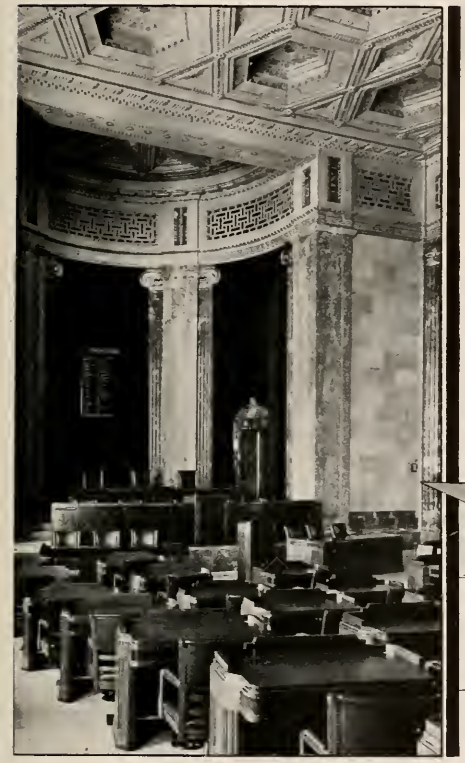

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⁂ ⁂ ⁂

ONE always likes to be complimented for good accomplishments. In these strenuous days pleasantries are particularly appreciated. The following two letters are selected for publication because they are typical of several that have come to us unsolicited from persons appreciative of our efforts to do something worth while:

2726 Haste Street, Berkeley
August 1, 1933

My dear Mr. Jones:

I wish to express to you my appreciation of your courtesy in sending to me, each month, the copy of ARCHITECT AND ENGINEER, with the reproductions of Mr. Howard's work.

The plates have been so well selected and the productions are so admirable that I am greatly pleased with the outcome, and congratulate you upon their appearance.

With many thanks for your thought of me.

Sincerely yours,
MARY R. HOWARD.

(Mrs. John Galen Howard).

GOLDEN GATE BRIDGE AND HIGHWAY DISTRICT
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August 17, 1933

621 Foxcroft Building,
San Francisco, California

On behalf of Mr. James Reed, General Manager of the Golden Gate Bridge and Highway District, I wish to convey to you his sincere thanks for showing the progress work on the Golden Gate Bridge in your August, 1933 issue of THE ARCHITECT AND ENGINEER.

Thanking you for your courtesy and cooperation in this matter and trusting that if there is anything further that we can do for you, you will feel free to call upon us,

Very truly yours,
Golden Gate Bridge and Highway District
By A. CLAY BERNARD,
Commercial Division.

⁂ ⁂ ⁂

PREDICTING a new era in reinforced concrete, Victor E. Johnson, who is to deliver a series of lectures under the auspices of the California Extension Division in San Francisco this fall, declares that our economic system in the past has been profit, but in the future, the new social system must furnish decent security, giving employment to all who would work. Craftsmanship, he says, will be emphasized and individuality will begin to make inroads on mass production.

"A visitor to the World's Fair," says Mr. Johnson, "is struck with the artistic originality of the adaption of structural materials to modern needs. At no time in the history of the world has technical skill so efficiently satisfied every physical want. We have arrived at the point where *Necessity is no longer the Mother of Invention, but rather Invention and pure technical knowledge and skill seem to be the mothers of new concepts in art* and beget new refinements in living never dreamed of less than a generation ago.

"We are facing a new era in reinforced concrete design and construction because of the return of the craftsman spirit and the coming of the architecture of the plastic. The spiritual inception and significance of Bahai Temple at Wilmette, the translating of the architect's dream into substance, the clothing of the structure in its scintillating, light-pierced envelope of quartz concrete, convinces us that the architecture of the plastic holds possibilities for an achievement that will be as distinctive and inspiring in its form as have been the great architectures of the past.

"A student of engineering is impressed with the rapid strides made in reinforced concrete design and construction in the last few years. Codes and textbooks are outmoded in a few months. Structures can no longer be designed by a draftsman with a knowledge of the application of a handbook of graphs and tables. A careful, theoretical design has become the practical design. The rigid-frame principle is no longer applied only to bridges, but is used in the design of almost every concrete building of any size. Continuous beams are designed as such, and not according to a code coefficient. In short, the structural designer of today who is not a student of his subject cannot hope to compete in his rapidly advancing field.

"Those who have attempted to study a technical subject alone, unaided, know how little progress is made. Class instruction, in small groups, still seems to be the best means of acquiring a working knowledge of an engineering subject. Certainly, no structural engineer or architect can afford not to keep abreast of the times in concrete design."

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SEPTEMBER
1933

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Sculpture by Petrilli

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Next Month

Robert B. Stacy-Judd will have the first installment of a five-chapter series of articles on Mayan Architecture and the story of his explorations in the South American jungles. The John Galen Howard studies of the University of California buildings will be shown as a continuation of this month's portfolio. The new Los Angeles aqueduct will be described and illustrated and there will be another complete story of the Golden Gate Bridge progress work to date.

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Sculpture by Petrilli

"THE KISS OF THE FLOWERS," MARBLE STATUE IN GARDEN OF J. HENRY BEHRENS ESTATE, SANTA BARBARA

REGINALD D. JOHNSON, ARCHITECT

THE
ARCHITECT
AND ENGINEER

SEPTEMBER 1933
VOLUME 114
NUMBER THREE

CUATRO VIENTOS, "TREASURE HOUSE" OF THE SANTA BARBARA FOOTHILLS

by
FREDERICK JENNINGS

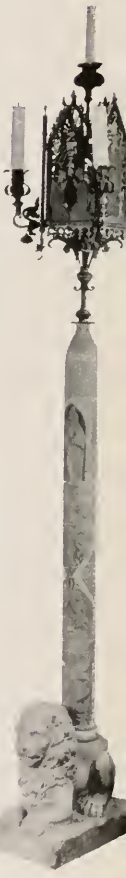
ATOP the crest of Mission Ridge, backed by the picturesque Santa Ynez Mountains and commanding a magnificent view of Santa Barbara and the Pacific Ocean, lies "Cuatro Vientos," the lovely three-acre estate of J. Henry Behrens.

Of low, rambling, Mediterranean architecture, the house is withal so distinctly Californian it seems eminently fitting that the musical tones of the old Mission bells can be heard within its walls. The house was designed by Reginald D. Johnson, who regards it as one of his most notable achievements. The estate contains every modern comfort and convenience, combined with a distinct atmosphere of medieval splendor. The charming entrance hall, the spacious living and dining rooms, the library, cloister, office, breakfast room, kitchen, guest room and two master bedrooms have all been planned and executed with artistic detail, while the servants' suite of five rooms is comparable in finish to the master quarters.

The hand-made tile in the entry hall, breakfast room, cloister, loggia and on the roof was "antiqued" by a special process. Practically all of the interior woodwork is of carefully selected Spanish cedar and the random oak floors are of the lovely old-time, wooden-pegged variety. The doors throughout are of particular interest, especially the massive 17th Century entrance doors of carved walnut, and the 17th Century painted and stencilled doors opening into the dining and billiard rooms.

The walls of soft old ivory are austerely bare of decoration, and act as a mellow background for the richly paneled ceilings, handsomely decorated in antiqued water-colors by that master artist, Pedretti. There are four open fireplaces in the house; the Carrara marble mantel in the Italian dining room is of the 18th Century and the impressive old stone mantel in the living room was taken from the Bellini Palace, built in 1580.

Many of the lighting fixtures are of special importance, particularly the 17th Century Spanish lantern hanging from the ceiling of the two-story entry hall; the finely carved and gilded wood candle sconces of the 18th Century at the sides of the entrance doors; the artistic 17th Century Spanish processional lanterns in the upper hall; a similar pair flanking the statue of San Marcos in the billiard room hallway;



ENTRANCE HALL, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA

REGINALD D. JOHNSON, ARCHITECT

and an exceptionally lovely Florentine tabernacle lamp of the 17th Century hanging from the groined ceiling of the cloister.

Many unusual features have been introduced. For example, the windows throughout the master wing slide into the walls, as do the screens at all French door openings. Master closets are cedar lined. The kitchen has an electric exhaust fan over the range and solid porcelain de Luxe type electric refrigerator. All-steel lath is used inside the house and the most approved weather stripping. Electric wiring is carried in galvanized conduit. The house is heated by an eight, separate unit, heating system, and in addition each bathroom is equipped with an electric, wall recessed radiator.

The grounds comprise about three and a quarter acres, landscaped under the personal supervision of Ralph T. Stevens. They are approximately 757 feet above sea level, free from both fog and frost. Rare varieties of trees, shrubs and flowers abound in profusion and represent importations from Japan, Korea, China, India, Australia, New Zealand, Cape of Good Hope, the Transvaal, Northern Africa, Europe, Mexico, Cuba, Porto Rica, Hawaii, the Philippines, Formosa, the South Sea and Canary Islands, South and Central America, et cetera.

SEVENTEENTH CENTURY BLACK OAK CHEST IN UPPER HALL, HOUSE OF J. HENRY BEHRENS

DRIVE APPROACH, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA
Reginald D. Johnson, Architect

A very fine collection of over five hundred varieties of Cacti and Succulents is one of the outstanding features of the gardens, as are the gorgeous roses, a giant flowering Honeysuckle from the Himalayan Mountains and twenty Live Oaks from three to five centuries old; while over the wrought iron dome of the Italian marble summer house grow grapes from Madagascar.

"The Kiss of the Flowers," an exquisitely beautiful marble statue of a nude young girl, by the famous Italian sculptor Petrilli, is enshrined in a shell-domed niche

FRONT VIEW, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA
Reginald D. Johnson, Architect

WISHING WELL ON GROUNDS OF J. HENRY BEHRENS ESTATE
SANTA BARBARA, CALIFORNIA

THE CLOISTER, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA
Reginald D. Johnson, Architect

LIVING ROOM, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA
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MASTER BEDROOM, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA
Reginald D. Johnson, Architect

BREAKFAST ROOM, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA
Reginald D. Johnson, Architect

DINING ROOM, HOUSE OF J. HENRY BEHRENS, SANTA BARBARA
Reginald D. Johnson, Architect

WROUGHT IRON TORCHERES IN HOUSE OF
J. HENRY BEHRENS, SANTA BARBARA, CALIFORNIA

THIS TABLET IS PLACED HERE AS A
TRIBUTE OF APPRECIATION
AND HIGH ESTEEM
OF ALL WHO PARTICIPATED IN THE
PLANNING AND DESIGNING AND THE
BUILDING OF THIS HOME AND IN
THE LANDSCAPING OF ITS GROUNDS:
AND ESPECIALLY, DOES A GRATEFUL
OWNER DESIRE
TO COMMEMORATE
THE ARTISTIC SERVICES OF
REGINALD D. JOHNSON, F.A.I.A.,
AND HIS ORGANIZATION,
THE HIGH STANDARD OF INTEGRITY OF
SNOOK & KENYON, GENERAL CONTRACTORS,
AND THE SPLENDID ABILITY OF
RALPH T. STEVENS, LANDSCAPE ARCHITECT.
NOVEMBER 12TH, 1929.

BRONZE TABLET COMMEMORATING THE SERVICES OF THOSE WHOSE OUTSTANDING WORK WAS RESPONSIBLE FOR THE ULTIMATE PERFECTION OF CUATRO VIENTO
This tablet adorns the house wall of the loggia

above the lily pool, in the patio of the front of the house. The vista of pastoral foothills and rugged mountains obtained from this patio has a veritable old-world atmosphere that adds measurably to the beauty and tranquility of the estate.

From the arched loggia at the rear of the house, with its interesting dado of antique Mexican tiles, a panorama of breath-taking greets the eye. . . . The Valley of Santa Barbara spread out like a miniature village, the Yacht Harbor with its toy-like boats, the Channel Islands diminutive in the distance, and hovering over all such a spirit of peace and quietude as to give the effect of a beautiful painting.

A Carrara marble wellhead of remarkable artistry adorns the flagstoned patio adjoining the loggia; and beyond, a broad expanse of velvet lawn slopes gently to secluded paths and delightful niches enhanced with seats of natural rock. Then more gardens, a family orchard, and always —the view!

DETAIL OF PALMER SABIN BUILDING, PASADENA
PALMER SABIN, ARCHITECT

THE CALIFORNIA STREET ART CENTER OF PASADENA

by
ELMER GREY, F. A. I. A.

THE California Street Art Center of Pasadena was started some years ago by Palmer Sabin and Wallace Neff, architects, Frederick Ruppel, Engineer, and George Hunt, maker of fine furniture. These three men erected buildings of early California style, two of them on one side of California Street (with an open court between) and one on the opposite side of the street. The buildings are not extensive in size, but the group has nevertheless, on account of the nature of the occupants and their interesting activities, gradually accumulated an enviable atmosphere of its own.

The Palmer Sabin Building has, in its second story, five architects, an architectural designer and the offices of the estates of two brothers notable for their enthusiastic advocacy of such avoctions as polo, succulent and cactus raising and model building. Several of these offices open upon long Monterey type balconies upon which a profusion of potted geraniums are kept in constant bloom (the writer, in tending those outside his own offices has occasionally been mistaken for the janitor). The first story of the same building is planned around a patio over which a large olive tree spreads its gray-green branches. Opening upon this patio are the studios of a mural painter, a lamp shade maker, an interior decorator, a manufacturer of porch furniture and two gown shops. Cleverly designed signs made by the mural painter. Monte, show the location of these shops. Across the court the Ruppel-Neff building is also planned around a patio, and upon it open the offices of an architect, the studio of two contract bridge experts and the entrance to the Brandycake Kitchen, an unusual cafe. In the second story an engineer, an insurance man and the Adoblar Brick Co. hold forth.

But this does not begin to convey the whole story. For the gown shops and the cafe are far from being ordinary places of their kinds. The writer is in no way related to or associated with the owners of either of these places, so he is free to state the nature of their characteristics. Those of the former pertain more particularly to the shop-keepers themselves. For they, one and all, possess those peculiar qualities which Nature alone can bestow and which Noah Webster and others have variously called "It", pulchritude and good looks. In fact it may even be said that when the architects overhead have any knotty problems in aesthetics to solve, and the Muse does not flow freely, all they have to do is to go down to these shops, look around for a moment, and lo, the Muse starts flowing like salt from a shaker! I am told.

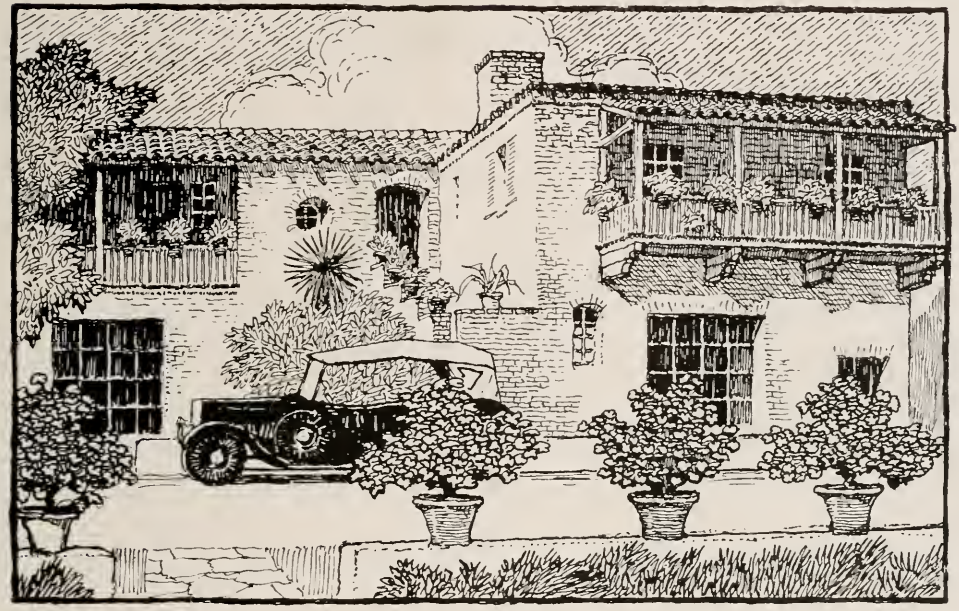
DETAIL OF PALMER SABIN BUILDING, PASADENA, CALIFORNIA
PALMER SABIN, ARCHITECT

(believe it or not!) that some of the finest architectural monuments in Southern California were so inspired!

However, the ladies have not an exclusive corner on this kind of distinction; for Dean Cornwell, the famous illustrator, upon being introduced to one male tenant of the Art Center said that he reminded

gratis for the pleasure of thus contributing during these dull times to the making of a place of distinction. The cafe has become a favorite luncheon and dinner rendezvous for Pasadena's smart set, and also for many of its art lovers.

Across the street from these two buildings is where George Hunt's inimitable



PEN SKETCH OF THE PALMER SABIN BUILDING, PASADENA
By Elmer Grey

him of a composite picture of all the football players in America! (In trying to discover who this Adonis might be, ladies, if you find any office doors locked, some of us have hours by appointment!)

Likewise the cafe is no ordinary hostelry. Its walls have been decorated with frescoes by a half-dozen different artists and architects, the names of some of whom may be found in "Who's Who" and their work lends corresponding charm to the rooms which it decorates. It is interesting to know, also, that in every case such work was done

hand-made furniture is constructed, and recently Edgar Cheesewright's decorative shop has also taken up its quarters there. Both of these shops are approached through a spacious court shaded with pepper trees which gives an impression of charm even before entering.

The three buildings constitute a notable example of what may be achieved in the way of creating "atmosphere," even when only a small amount of architecture is involved, and when it is handicapped by being placed on opposite sides of a street.

PEN SKETCH OF THE RUPPEL-NEFF BUILDING, PASADENA
By Elmer Grey

WHY NOT BROADCAST THE ARCHITECT'S STORY?

by
EUGENE CLARK
in Pencil Points

Editor's Note—Some broadcasting has been attempted on the Pacific Coast in behalf of the profession but it has not been altogether successful, according to reports.

INTEREST in building and remodeling can be greatly stimulated through broadcasts by architects from the local radio stations in their communities, and at the same time a more just appreciation of the value of the services the architectural profession has to offer can be developed. It is easy; it costs nothing and it can do untold good.

Architects here and there have been giving radio talks from time to time, but the number of these talks might well be increased a hundred fold and more. Every part of this country should be covered frequently with broadcasts by architects. The radio is used extensively by just about every other important factor in modern life: religion, medicine, law and even the White House. It seems to be high time for architecture to go on the air in a big way, not so much through broadcasts on the great networks, though they are important, as through countless broadcasts from local stations. Architects nearly everywhere can talk of the people living within a radius of a hundred miles or so. Such broadcasts, coming from their own professional men and suited to the local needs, can have a peculiar value for the people and an intimacy and effectiveness that talks coming over the networks from metropolitan centers can never have.

Most architects will probably agree in principle with what has been said above, but when it comes to stepping up to the "mike" themselves, that is different. Modesty has something to do with this reluctance, but it seems to be hardly a virtue when it deters an architect from doing what he can to increase activity in the building industry, putting more men to work and helping along the general business recovery, while he is advancing the interests of his profession.

Much of this reluctance is due to unfamiliarity with the details of broadcasting and a consequent exaggeration of its difficulties, a tendency to shy at the microphone. Of course, broadcasting does focus public attention upon one more than any other thing, perhaps, excepting getting on the front page of the newspapers. There is this difference, however—that broadcasting brings favorable attention, if one does it well. Probably the fear that they may not do well is what prevents most people from attempting it. Usually this fear is groundless. If one passes the simple voice test given in advance at the broadcasting station, there is nothing to fear. There seems to be no reason why most architects should not qualify. It is much easier than addressing an audience. No effort is needed to make oneself heard, the apparatus takes care of that and the engineer in charge can do wonders in getting the best results out of the speaker's voice through the adjustments he can make.

The first step is for the architect to write to the manager of a broadcasting station in his locality. If there is no station in his own town or city, there is likely to be one in the nearest large center. In writing, the architect should offer to give a talk on home building, remodeling or some other topic of general interest upon which his professional experience fits him to speak. He should state that he appreciates the importance of not giving a technical talk to a popular audience and that he will endeavor to present information of practical value to the average radio listener. The number of architects and students who would appreciate a learned discourse is very small in proportion to the others in the area covered by any station and radio must, in fairness to its public and itself, present programs of general interest. This fits in perfectly with the purpose of the architect in broadcasting, for he wishes, naturally, to talk to the laymen of the community, rather than to the members of his own profession.

Such an offer is likely to be welcomed by the radio station and a date set for the broadcast. A voice test or audition is usually required, but this is not so formidable as it sounds. One is merely asked to read into a microphone for about five minutes while a radio engineer listens at a loud speaker. The apparatus operates just the same as it does in a broadcast, excepting that the talk does not go on the air. This enables the director to judge whether or not one's voice is suitable for radio broadcastings, and to make helpful suggestions. Some otherwise perfectly good voices do not work well on the radio, but the chance of this is small and it can do one no harm to find out.

In order to do as well as possible in the audition one should select a magazine article to read from that is more or less of the character of the talk one expects to give and should read the chosen portion of this article aloud at home often enough so as to know it almost by heart. This prevents stumbling when one comes to read before the microphone and leaves one free to put the requisite degree of expression into the reading.

It should be read as though one were talking to someone at a distance of four or five feet, in a natural conversational tone. To read as though making a public speech is the worst possible approach. It should sound like a talk, not like reading, and thorough familiarity with the text is essential to this end. The rate at which one should read depends largely upon one's usual manner of speaking and ranges from, say, 115 words a minute to 130 words a minute or more. If one naturally talks rapidly and can speak distinctly at a fast clip, the interest of the listener is more likely to be held than if the talk seems to drag. The radio has a tendency to make the voice sound slightly deeper than it really is and this effect should not be accentuated by adopting an especially low tone. The tone of voice should be natural, not only for the best effect but for ease and comfort since the reading must be continuous for 12½ to 12¾ minutes, if the period of the program is 15 minutes. The fifteen-minute period is probably best suited to the purpose of an architectural talk.

One should not talk directly into the microphone, but should place it at one side instead of directly in front, and turned so that the voice strikes it at an angle. The distance varies greatly in different cases. The determined distance should be maintained fairly well, unless the microphone is of the new dynamic type, which is highly sensitive and allows a great deal of latitude. Usually, if one leans forward the voice is likely to go past the microphone instead of into it and to become indistinct. If one leans back and the distance becomes too great the voice will have a hollow sound that radio people call "roomy."

The microphone has a curious way of picking up the sound of one's breathing, which, of course, does not contribute to the pleasure of the listeners. If the speaker becomes short of breath they can hear him pant. Reading too fast; not pausing properly at the commas, semicolons, and periods; and nervousness are the common causes of audible breathing. Usually it is nervousness.

While the manner should be natural and conversational, the tone should be held and there should be enough up-and-down to prevent monotony. Attention should be

centered upon expressing one's thoughts and this cannot be done unless the text has been practically memorized. While there is considerable detail about all of this, there is nothing difficult. There need be no fear of wandering in one's speech, for one reads when broadcasting, just as in an audition.

All that has been said above about taking the test applies to broadcasting. No one without experience in talking on the radio should go on the air without a rehearsal at the radio station, in addition to the voice test, using the manuscript of the talk that is to be broadcast. This is important in overcoming nervousness and becoming familiar with the studio routine. Also, it permits the radio people to time the reading and advise the speaker how much needs to be added to or cut from his "script" to make the talk fit the allotted time. The rehearsal affords an opportunity for valuable coaching of the speaker in the art of broadcasting, so that his performance may be creditable both to himself and the broadcasting station.

When possible, the rehearsal should take place immediately before the broadcast, as it tunes the speaker up for the actual delivery of his talk. If the studio is available a half hour before the broadcast, this can be done very well and a few minutes relaxation can be enjoyed before going on. This is not always practicable, however, and the rehearsal must be held at some other time. If the thought of the listeners makes the speaker nervous, as it often does, he should make believe that he is speaking only to the engineer in the control room.

Besides the speaker, the people taking part in the broadcasting of a talk such as an architect gives are usually as follows: a production man, in charge of the program; an engineer, stationed at the apparatus in the control room adjoining the studio; an announcer, who introduces the speaker and makes the closing announcement; and a pianist, who fills in with a little music at the end, making an agreeable closing.

Shortly before time for the broadcast to go on, everyone takes his or her place; the speaker seated at a table, on which is a microphone; the announcer, standing in the center of the studio at a microphone that is either supported upon a floor standard or hung by guy ropes from the ceiling; the pianist at her instrument; and the engineer in the control room. When only a few minutes remain before time to go on, the large loud speaker on the wall begins giving forth the end of the program that is preceding your talk. The closing sentences or the last strains of music are heard. The long, red second hand, that sweeps around the face of the big studio clock once every minute, swings upward and just as it reaches the dot over the XII the announcer begins. Radio works on split seconds. As soon as the announcer finishes the introduction, the speaker should begin, waiting only long enough not to seem to tumble over him. Then it is a steady grind for 12½ to 12¾ minutes, doing one's level best, slowing down a little on the last paragrah or so and dropping one's voice a little towards the end of the last sentence, so as not to stop with a jolt. Then the announcer and the pianist do their stuff and the broadcast is over, just on the dot.

Many are deterred from talking on the radio by a fear that they cannot write a suitable talk. This is not difficult, if the architect will only write the things he wants to say as though he were giving advice to a client in his office. A natural conversational style is best, there should be nothing savoring of a public speech about it. The "script" should be read aloud to discover any awkward spots, for some combinations of words that are perfectly good when read silently are unpleasant sounding or cause one to stumble in reading aloud. The necessary revisions for ease should be made. The manuscript should be typewritten on opaque white paper with a double space between lines, so that it may be read without difficulty. The sheets should not be fastened together, but left loose so that each sheet may be laid aside as it is read without any crackling or rustling sound that might be picked up by the microphone. About 1760 words will be required, it is easier to cut than to add to a script. There should be two carbon copies of the script which should be turned in at the radio station, preferably a week in advance of the talk. The original manuscript should be retained by the architect to read from in broadcasting.

If the architect's talk is to do the greatest amount of good the largest possible number of people should know about it in advance, so that they may tune in. In addition to the announcement that will be printed, as a matter of course, in the lists of radio programs for the day in the newspapers, notices should be sent out to boards of trade, civic organizations, women's clubs, and to real estate developers and others who are likely to be especially interested. It is well, also, to send copies of a short advance item to the newspapers and to have another item appear after the broadcast. This puts architecture in the minds of the people.

Proper cooperation with the people at the broadcasting station is only fair. If an architect is given an opportunity to broadcast a talk, he is in duty bound to prepare a good talk, and deliver it well and without failure, at the appointed time. Postponement is not to be thought of; it would cause the station great inconvenience and, perhaps, a serious loss. The radio people should not be left in doubt whether or not the speaker may be relied upon. It is important to be on hand at the studio as long in advance of the broadcast as the station management may desire, usually from fifteen minutes to a half hour. While radio is an amusement to the general public, it is a serious business to those who put it on the air. An appreciation of the importance of the time element and of the complexity of the system in broadcasting is due the people who contribute their facilities. Radio station people are delightful and an atmosphere of friendly courtesy prevails throughout the offices and studios. It is a pleasant, interesting experience and it is worth while, so why not broadcast?

17TH CENTURY SCREEN OF APPLIQUED VELVET
IN HOUSE OF J. HENRY BEHRENS, SANTA BARBARA

ELEVATION, AUDITORIUM, LIBRARY AND MUSEUM GROUP

Competitive Drawings Submitted by Howard & Cauldwell in the Final Stage of the University of California Competition 1899-1900

IN 1898 Phoebe Apperson Hearst launched the famous international competition for a comprehensive plan for the University of California, Berkeley, Bernard Maybeck acting ably as professional adviser. From one hundred and five sets of drawings which were submitted in the "preliminary" or qualifying competition, an international jury selected eleven "Premiated Designs." After a visit to Berkeley, participated in by all the qualified competitors, the final sets of drawings were prepared and, having been submitted in August, 1899, were judged by the same jury. The award of first place was made to Monsieur E. Bénard, of Paris. The exhibition of the splendid drawings, then held in the Concourse of the Ferry Building, San Francisco, was an event long remembered.

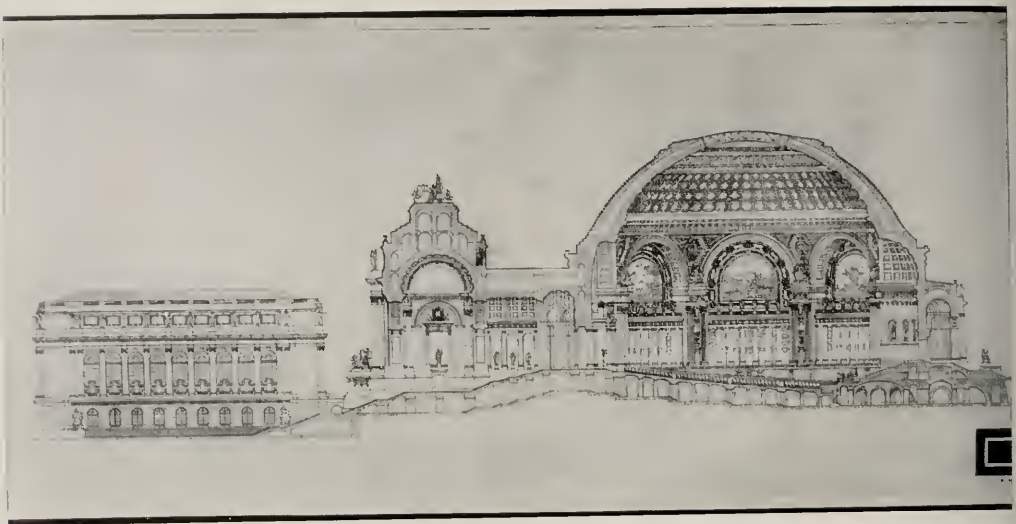
The principal drawings of the prize winning set submitted by the firm of Howard and Cauldwell are reproduced here. In one or more succeeding portfolios a selection of hitherto unpublished "progress studies"—some by Mr. Howard's own hand—will be presented.

M. Bénard's function ceased with a re-study of the general plan made by him, Mr. Howard, thereafter being engaged to further study the so-called "Bénard Plan" and to carry the work on in the more developed design and construction. He was busily occupied with this undertaking, thereafter, for the first quarter of this century.—W. C. H.

AIRPLANE PERSPECTIVE, COMPETITIVE DRAWING FOR UNIVERSITY OF CALIFORNIA BUILDINGS
HOWARD AND CAULDWELL, ARCHITECTS

GENERAL PLAN, COMPETITIVE DRAWING FOR UNIVERSITY OF CALIFORNIA BUILDINGS

HOWARD AND CAULDWELL, ARCHITECTS



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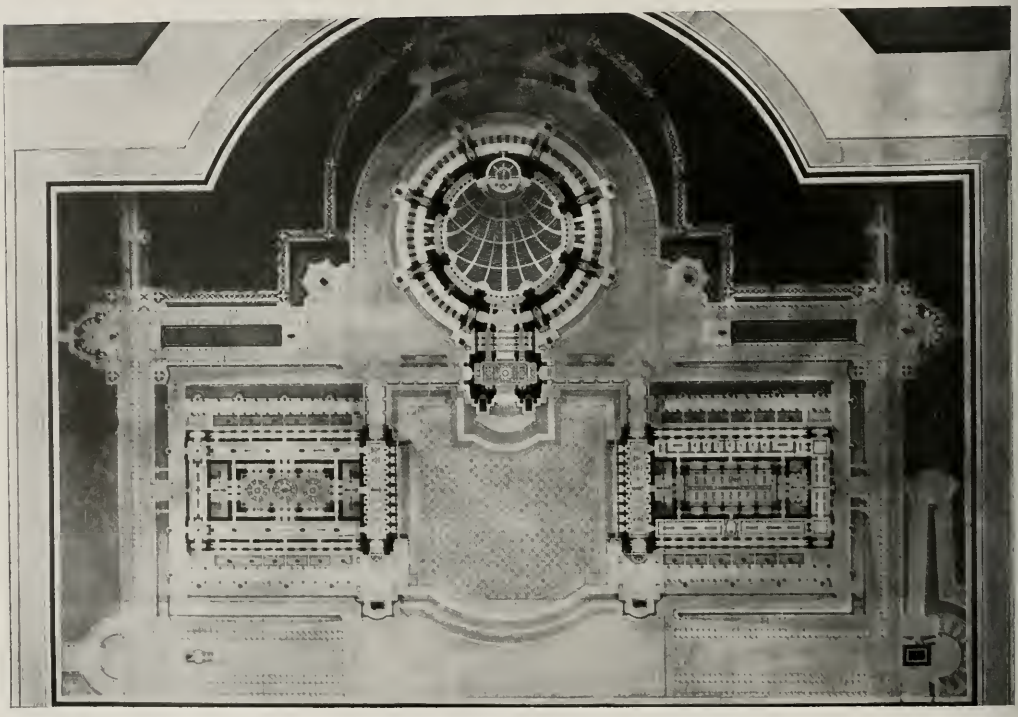


PLAN, AUDITORIUM, LIBRARY AND MUSEUM GROUP
COMPETITIVE DRAWINGS FOR UNIVERSITY OF CALIFORNIA BUILDINGS
Howard and Cauldwell, Architects

USE OF CONCRETE FOR REPAIR AND RECONSTRUCTION WORK

by
SAMUEL HOBBS, Field Engineer
Portland Cement Association

IN the City of Long Beach and in its neighboring communities there has been seen in recent months a demonstration of reconstruction, repair and general strengthening of buildings, such as can be viewed only at rare intervals, and then seldom in such volume and variety. No city or village in a country geologically new can well afford to ignore the lessons drawn from the structural sufferings of the earthquake-stricken region, nor to study for its own possible use, the means which are here offered for remedy—means which may be applied with equal effect as real and tangible measures of prevention. If we agree with the logic of the old proverb which relates to prevention and to cure, we must concede that the value of the one is sixteen times the well-established value of the other.

Necessity compels the reconstruction of buildings in the area most recently shaken, but a wise public policy prescribes that the rebuilding be so designed and carried out as to provide a reasonable degree of resistance to the kind of external forces which caused the original damage.

Many materials, properly used, are filling an important part in the reconstruction program in the earthquake area. This article deals primarily with one of them—CONCRETE—but does not attempt to do complete justice to its every use. For various reasons it has many advantageous ap-

Almost any desired effect may be produced in placing concrete building fronts, a great variety of mold and form selections being available. The upper view shows a surface produced by form liners, while the lower picture shows effect obtained by the surfacing of the wood forms.

The ornamental concrete parapet shown in the above picture was cast in place in waste molds.

plications to reconstruction work in which resistance to lateral forces must be provided. With reinforcement placed in accordance with design requirements, it may be readily cast in place in bond courses or horizontal ties, in vertical ties or in parapets, in logical order with the rebuilding of walls. Correctly reinforced and formed and with proper placement, it may readily serve the double purpose of strengthening and beautifying store-fronts and wall exteriors through its adaptability to architectural treatment. Again, it may be shot, as "gunite", into recesses chased out of masonry walls, thus building up reinforced frames to provide desired lateral strength.

It is not intended to discuss fully all the ways in which concrete of the usual nature has been employed, since the problems involved are unusual mainly in the operations of handling — in the elevating of small quantities of concrete for the casting of beams and ties, in the use of centrally proportioned concrete delivered ready mixed and hoisted to the point of placement, and in the many details of keying, bonding and tying which characterize the average repair job on a damaged building of the ordinary type.

Since the construction of bond beams, ties and similar members will be discussed at some length in the latter portion of this article relating to the use of gunite, it is unnecessary to go into detail concerning the use of concrete cast in place by the usual methods for such purposes. It will suffice to observe that relative economy and the conditions of placement will govern the choice between the methods available. It is both economical and practical, usually, to cast concrete members when an entire wall or large sections of a wall, are to be rebuilt, so that there will be little obstacle to the placing of forms or to the complete filling of them with concrete. Under other conditions, such as arise in building frames into walls which have not been removed but which require strengthening, the use of gunite will allow a complete and compact filling of the sections, a bonding to adjoining masonry and a uniformity of finished work, which otherwise would not be possible.

One use of the usual type of cast-in-place concrete, however, deserves particular mention and description. New walls to replace those damaged beyond effective repair and especially new fronts for business buildings, are being built of reinforced concrete in many instances because of the simplicity with which an ornamental exterior may be produced coincidentally with lateral strength. By proper design and use of reinforcement and with intelligent placement, it is a simple and satisfactory matter to cast in one piece the front wall sections, supporting beams over openings and cantilevered parapet or fire wall, which make possible the construction of the monolithic building front of coherent strength and pleasing, attractive appearance.

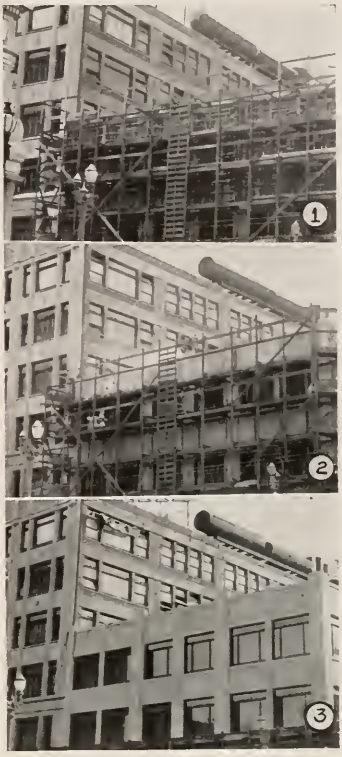
Since exterior appearance is so vital a requirement in construction of this nature, it may be well to review the few fundamental principles for architectural concrete which need to be and may very readily be observed, for there is no acceptable excuse

for failure to produce the clean cut, well molded concrete face which is an essential part of such designs.

First; the forms must be securely aligned and braced; lined, fluted or otherwise treated to create the desired type of surface. Waste molds, if used for special decoration, must be adequately tied and supported. For smooth-finish casting, all form surfaces are usually lightly oiled to prevent sticking. Where a rough form-marked surface is desired, thorough wetting of the forms before placing concrete may be sufficient. Sharp angles and other features likely to cause breaking of corners during form stripping should be avoided.

Second; the concrete mixtures must be proportioned with reasonable care. Both harsh, stony mixtures and wet, sloppy mixtures are objectionable, enhancing the probability of needless blemishes through rock-pocketing and segregation. The aggregate should contain sufficient fines to produce a smooth-working and readily puddled mixture, without such excess of fines as to promote the accumulation of laitance. Laitance is seldom a matter for serious concern, however, except when mixtures are so over-wet that considerable quantities of fine material are floated to the surface.

Third; the manner of placing the concrete must be regulated. Carelessness is the prime reason for such dissatisfaction as may arise occasionally in such work. An ornamental front is no place for slovenly workmanship, in concrete or in any other material. Concrete should be placed with reasonable uniformity in layers or lifts of regular thickness along the form and puddled sufficiently to fill all spaces completely. There is no occasion for violent spading along the face of a form when a mixture of proper proportions and consistency is used. Moderate "rodding" of a plastic concrete will result in good, clean casting. Experienced contractors are realizing that it costs no more to place concrete by careful methods than by methods which result in unsatisfactory work. If it is necessary to stop casting before completion, the concrete should be brought to a level to avoid the appearance of irregular lines on the exposed surface. If laitance accumulates, it should be scraped off before set is com-



The three views above show a large store building in which a 3-story wing has been reconstructed with reinforced concrete exterior walls and plaster finish, applied to blend in color and appearance with the exterior facing of the main building. (1) Walls being cast in the forms. (2) Removal of form. (3) Completed exterior.

Horizontal and vertical ties may be used in repairing fractured walls.

plete, leaving a surface which will bond readily to the material placed later, particularly if grouted before placing is resumed. Vibration, properly employed, will assist in the placement of concrete mixtures which would be too stiff for use under ordinary methods, and will allow clean, uniform casting of concrete low in water content, thus reducing to a minimum the problems arising through segregation and the formation of laitance.

These precautions are simple, inexpensive and much to be desired, considering the great enhancement of quality and appearance to be gained by their observance. As to the final result, the great variety of mold and form selections, color and textural treatments, make it possible to achieve almost any desired effect.

Because the methods employed in its use are not so well known, nor so generally understood, and because of its adaptability to the great field, almost unexplored, of the strengthening of existing buildings lacking in resistance to lateral forces, the remainder of this article is devoted to concrete construction placed by pneumatic methods, which for the sake of brevity will be called by the commonly used term "gunite".

Gunite, the product of the "Cement Gun", is concrete placed under pressure through a nozzle where a continuous discharging stream of pre-mixed cement and aggregate is thoroughly and intimately mingled with water in just sufficient quantity to produce a fine-aggregate concrete which can be readily built up against a form or wall surface, driven into cracks and cavities, forced through and around steel reinforcement, densely and compactly placed and finished to desired lines and into homogeneous members. A usual pressure of about 35 to 40 pounds per sq. in. is furnished at the nozzle by a compressor of capacity which may vary according to the length of hose and height of lift through which the pre-mixed material must be forced. The concrete aggregate is normally a sand well graded from fine to a maximum size varying from $\frac{1}{4}$ to $\frac{3}{8}$ inch. According to the character of the work and the amount of rebound and waste of larger particles to be anticipated, the mixture is usually proportioned in the range from 3 parts of sand up to a maximum of $4\frac{1}{2}$ or 5 parts of sand to each part of cement, by volume. The mixture of cement and aggregate is thoroughly blended—on jobs where considerable quantities are involved by the use of a drum mixer; on very small jobs by mixing in the charging "box". Concrete of highly satisfactory strength and density and of low volume change may thus be obtained through well controlled proportioning and placing operations.

The principal fields of use in which gunite has been found valuable and practical in the repair of earthquake damage may be classified as follows:—

1. Tying and repairing walls which remain standing but which are cracked or fractured.
2. Building into existing buildings bond beams and vertical ties, or even complete structural frames.
3. Replacing fractured wall facings with well reinforced concrete exterior slabs securely bonded to the wall backing.
4. Replacing destroyed walls by complete solid or hollow reinforced concrete walls, and building new parapet or fire walls.

Two general methods are used in repairing a cracked or fractured wall of masonry. Horizontal ties are used where possible, because of the greater simplicity of preparing the area to be treated. A horizontal tie across an inclined or vertical fracture is installed by chasing out the masonry along the bed-joints of horizontal courses, usually 3 courses deep and 2 courses into the wall. The ends of the tie channel are cut square, reinforcing bars inserted and the opening shot with gunite. Such a tie, it is reported, was undamaged by a severe secondary shock occurring only two hours after it was placed, although further damage was sustained by other parts of the building under repair.

Another method of fracture repair, often used in conjunction with the above in severe cases, is accomplished by making a V-cut along the line of the fracture, with a surface width of about 3 inches and about half that depth. Such preparation on one face of a wall will usually allow a quite complete sealing of the crack with gunite.

A bakery and a cafe in Long Beach were repaired by these methods, operations being conducted on the outer side of the walls, while business was uninterrupted and plaster remained intact within. The V-Cut method is also found useful in keying walls where a horizontal shear failure has occurred, as at a foundation line, and in following along the line of a stepped or diagonal fracture to seal the cracked portion.

Particular attention should be called to the fact that when gunite is shot against or into old masonry, proper precautions should be taken to prevent excessive absorption of the moisture from the gunite and to supply such additional curing to finished surfaces as conditions demand.

Such repair work is chiefly interesting because it is so valuable a means of restoring damaged buildings sufficiently for immediate purposes of use and occupancy with a maximum of economy, where circumstances and finances do not permit full and complete measures. It is also a useful adjunct to the processes of rehabilitating more or less damaged buildings and of strengthening other buildings against future hazards, by the building in of frames to resist horizontal forces—or even of complete structural frames to provide lateral resistance and to carry the vertical loads of the building as well. The more complete built-in structural frame is particularly desirable in structures having halls of assemblage, office and apartment buildings where hazard to human life is augmented by use of considerable numbers of people, and in other structures where walls of large spans are insufficiently braced and lack lateral support. The building in of light frames designed merely to unite and tie together the parts or walls of a building and to provide resistance to lateral forces acting upon it such as occur during an earthquake shock, is the type of strengthening repair most likely to be an economic possibility which will still provide a reasonable assurance of adequacy for the general run of small structures of the types most commonly subject to earthquake damage and heretofore practically unrestricted as far as legal requirements for lateral strength are concerned.

The building in of light frames designed to tie together walls of a structure and to provide resistance to lateral forces has been employed in the smaller structure of the type most generally subject to earthquake shock.

A large skeleton frame building prepared for application of reinforced gunite facing to the masonry, showing diagonal bracing welded to the steel frame.

Above—View of preparation of walls and steel assembly at a wall corner.

Upper right—Front of masonry, church in Los Angeles, showing preparation of walls for building in of frame members. Vertical recesses show part of reinforcing steel in place and keys to allow replacement of facing. Horizontal openings partially obscured by staging.

Lower right — Building up a horizontal frame member with gunite. Note steel partially encased with concrete as shooting progresses.

The building of such frames into the walls of masonry buildings requires consideration of the vertical loads upon the walls and the handling of operations in such a manner that wall sections will not be unduly weakened during the preparation and construction. Thus, in chasing out brickwork for a vertical tie at a building corner or at an intermediate point of a solid wall, a full story height may be opened up at once since the loads will distribute readily over the adjacent sections. A vertical tie alongside a large opening must be handled more carefully, preserving support of lintel members and carrying continuously the loads of the wall above the opening. Similarly, horizontal tie members must be prepared and built in sections, limited in length so that support for the loads on the section from above can be provided at all times. In the average case, sections may be opened up about 7 feet long, while for masonry of high bridging strength or with small vertical load, the section length may be extended up to 12 feet.

In preparing openings in masonry for such construction, the chasing out may be done by hand or by the use of pneumatic tools. Hand work for small jobs or where desirable in walls somewhat shattered, is usually performed with chisel points, following the course or vertical joint. For larger work, the 50 pound chipping gun is usually employed, using a square point. Horizontal openings are made along the course lines of the masonry, while openings for vertical ties are made along the vertical joints, forming keys into the wall in addition to the uniform cross-section of the tie.

After the opening is chased out to proper size and thoroughly cleaned and prepared, the reinforcement required by design conditions is secured in place. This will vary of course with the height of walls above the section considered, the magnitude of vertical loads, story heights, etc., and the theoretical size of tie members will vary likewise. A typical horizontal tie beam at a floor line of a building of two to four stories may extend 8 inches into the wall and have about the same vertical dimension, with four bars of $\frac{1}{2}$ to $\frac{7}{8}$ inch diameter symmetrically at top and bottom of the beam. The top and bottom bars will be hooked together by $\frac{1}{4}$ inch round rods at about 12 inch centers. In the case of sectional construction of horizontal ties, the face length of the chased opening is left longer than the back to give opportunity for extending the reinforcing bars beyond the section cast for proper length of lap with rods in the following section.

The prepared section is then shot with gunite, building up in the case of vertical members from the bottom upward. After a section has been finished, an interval of 48 hours is sufficient under ordinary circumstances to allow preparation of adjoining sections. This interval may be lessened safely if high-strength mixtures and extra precautions are employed.

Large masonry buildings may be strengthened and made coherent to resist lateral forces by the same means which has proved so effective in small structures, consideration being given to the greater necessities for care and adequacy in design. An interesting example of the strengthening of a large structure is found in the case of the Second Church of Christ Scientist in Los Angeles, in which a comprehensive framing system of reinforced gunite construction has been installed for protection to a large and valuable building against the probability of future earthquake damage.

For buildings of general similarity in size, height and loading, it will be seen that arbitrary assumptions may be made as to the size of members, the amount of reinforcing used, and the distance between vertical ties. Horizontal ties should be placed at every floor line in the type of structures under discussion. Every complete structural frame built into such buildings must be completely and specially designed, of course, for the individual structure.

Gunite is being used effectively in another field of repair work for the reconstruction of walls and wall facings. In certain large buildings exterior wall facings of masonry were considerably shattered and separated from the backing so that removal was necessary or advisable. Here gunite construction may be employed as a highly satisfactory means for securely bonding a well reinforced exterior shell to

the wall backing, at the same time strengthening the backing by the penetration of the gunite mixture into the crevices and voids of the masonry, which is made possible by the shooting pressure. Again, it must be remembered that gunite when applied to masonry must be protected from undue loss of water into the porous backing during the hardening period. This system has been employed in strengthening such structures as the Inglewood Union High School buildings and in refinishing the second story street fronts of the Los Angeles Athletic Club Building. In Long Beach, a large theatre building of steel skeleton frame has been so treated, with the addition of diagonal bracing in the form of heavy rods, a pair in each exterior panel, crossed and welded to the frame at the junction of horizontal and vertical frame members.

The gunite exterior slab is usually about, four inches in thickness for this type of work, reinforced midway with heavy welded wire mesh providing well distributed lines of steel. Surface finishes may be applied also with the cement gun in varied color tones, and textural treatments applied by hand to the extent and for the effect desired.

Complete wall reconstruction is also being done by the gunite method, both in the solid and hollow wall types. A recent interesting case in Long Beach is the rebuilding of the rear second story wall of a two story store building on the Strand, the original wall have been removed. New second story columns have been shot, together with a reinforced gunite parapet or fire wall. The parapet wall is designed as a girder and carries below it hollow filler walls of gunite in the form of two reinforced slabs of two-inch thickness, continuous over the columns. Columns are formed on three sides for guniting with the front left open, parapet walls are shot against a light back form and may be screeded and hand-finished to decorative shapes and rounded copings. Walls may be shot against a backing of heavy paper or felt, held in place rigidly by channels or other framework. Lightness of forming, lightness of finished wall combined with structural strength, and feasibility of use without undue interference with interior occupancy, are advantages which may be claimed for gunite in such construction.

Major attention has been given in this discussion to the uses of concrete in the repair of the most common types of buildings — of light construction and usually lacking structural frames. It is, of course, true that many framed buildings have been designed in the past without consideration or provision, except by accident, for definite lateral strength. In repairing members of such structures, gunite is a most useful and valuable medium, particularly in restoring weakened or fractured sections of reinforced concrete. Such repairs involve the cutting out of sufficient sections to remove all the damaged material, cutting off reinforcing bars which have been pulled out or displaced and welding on new bars to restore the continuity of the steel. Gunite shot against concrete surfaces carefully prepared and cleaned will bond to the old surface in an excellent manner by virtue of the intimate contact and exclusion of air voids made possible by pressure placement. Because of the low water content of gunite mixtures, higher strength is obtainable than with usual mixtures of similar aggregate proportions, so that it is quite feasible to build up in repaired members a greater strength than they originally had. Gunite may be used also in the method previously described as V-Cut operation, to seal up and bond together fractured sections which do not require complete replacement.

It has been the main purpose of this article to describe, in as complete a manner as space would permit, the many ways in which concrete is being and can be utilized to good effect in reconstructing and strengthening buildings in such manner as to enhance their resistance to such lateral forces, particularly earthquakes, as may operate to cause damage, destruction and loss of life. A second and hardly less important purpose is to point out with all possible emphasis that the use of these constructive principles need not and should not await the coming of catastrophe, but ought to find immediate application wherever the need may be—and there are many and fertile fields which builders may cultivate.

ANNOUNCING A SERIES OF ARTICLES ON MAYAN ARCHITECTURE

COMMENCING with the October number and continuing each month for five continuous issues, THE ARCHITECT AND ENGINEER will publish the amazing story of the explorations of a Los Angeles architect in the Mayan jungles. From his discoveries this architect-explorer has written for this magazine his outline of "An All-American Architecture and Allied Arts, Founded on Ancient Mayan Motifs." Robert B. Stacy-Judd, the author, has devoted the greater part of his life to study and exploration of the Central American empire and it is his fond hope that the movement of which he is indisputably the father, will eventually result in an accepted American style.

The successful explorations which Mr. Stacy-Judd has already conducted are about to be followed by the greatest of all expeditions—the largest and most complete ever to enter any jungle. The author declares his belief that its mission is one of the most important in history, and his reasons for so believing sound logical:

"First," he says, "the historical data which I have gathered and now awaits publication, forms one, if not the most astounding story of the entire human race. Its acceptance will change world histories.

"Second, I endeavor to prove that the earliest Egyptians were Maya colonists.

"Third, that Christ was a master of the Maya tongue and esoteric lore.

"Fourth, that Christ's last words were pure Maya and possess a more ennobling meaning than the Biblical definition.

ROBERT B. STACEY-JUDD
Architect and Explorer

"Fifth, as the originators of our principal staple foods the Mayas leap into the realm of the select few of history's greatest civilizations, and so on.

"The Mayas were great astronomers, adepts at astrology, physicians and exceedingly learned in all the arts and crafts; in other words, highly civilized. They gave us between forty and fifty household commodities which we could not do without at this time, including tobacco and rubber.

They gave us the Zero sign. without which we could not compute.

"Their calendar is so accurate, although in existence for over five thousand years, it will outlast our own Gregorian calendar, which is not yet 350 years old. It is without question the greatest story in the world today. Furthermore the almost impenetrable jungle pall, extending from northern Yucatan to Guatamala, may be termed 'the world's last frontier', and the story actually belongs to America.

"And so, very little of the Maya civilization is known. But the story, still incomplete, which I have been able to piece together, becomes a heritage to this and future generations. Not one per cent of their magnificent Central American Empire has been explored; that is, thoroughly explored. Obviously, to arrive at even a semblance of historical accuracy, I had to search all available old Spanish documents, obtain translations and employ many sciences such as archeology, anthropology, mythology, ancient languages, etc. One of my most important aides was my early thorough training in the History of Architecture. Le. Plongeon, one of the greatest of all Maya students, believed the latter science would contribute considerably to the solution. And I agree with him.

"If I am successful in putting over my next expedition, I intend making an aerial map of the area, establishing a main base at Uxmal with one or two sub bases, arrange for the numerous scientists to meet regularly at round table conference in the field, procure approximately 100,000 feet of motion pictures, including sound, transmit radio messages direct from the jungle over a national broadcast, compile a complete log, collect specimens, provide the press with authentic stories written by a national writer, and follow with a national lecture tour, for which I am already contacted. The motion pictures to consist of one super feature travelogue - adventure and numerous shorts. By these means I hope to correct the many misleading writings now prevalent."

The photographs and drawings which will accompany Mr. Stacy-Judd's article are copyrighted and will be published also in a book now awaiting publication in New York. The book "Exploring Mysterious Yucatan" has already been accepted by one of the large eastern publishing houses.

The author is preparing a complete series of designs, based on Mayan motifs, covering numerous subjects, buildings of all classes, details, furniture, etc. He feels that by offering a few ideas, not open to the critical eye of the esthetic designer, a better grasp of the vast possibilities will present itself to America's style. Obviously, he says, the task is beyond the efforts of an individual. Mr. Stacy-Judd makes no claim to having solved the problem.

GAS-FIRED AIR CONDITIONING APPARATUS FOR RESIDENCES

by
EUGENE D. MILENER

THE unusual efforts that have been directed recently toward air conditioning in all its phases are generally known. No one can accurately measure the total amount of thought and effort that has been expended toward analyzing and projecting the problem, experimenting with equipment, and manufacturing suitable apparatus. In so far as industrial and commercial year 'round air conditioning is concerned, the entire development has been carried through to the point where it is commercially acceptable. In other words, research has projected and developed a series of processes; manufacturers have built suitable equipment; this equipment has been installed and operated under the conditions for which it was designed.

The situation with regard to summer air conditioning of whole residences with gas heat energy or with other forms of energy has not quite reached that stage. Rather, it has reached the stage where research has brought into being several possible methods of conditioning whole residences; engineering has perfected certain apparatus and controls, and a limited number of plants have been built. This all represented the work of scientists, engineers and manufacturers—that body of men who are primarily interested in creating and producing the service of summer air conditioning to whole residences. Work in that direction, however, will be valuable only to the extent that the public accepts the proffered service because of its intrinsic worth and also because the appeal to continually use it is strong enough to cause the public to willingly allocate a part of its income to pay for the service.

The purpose of this paper is to report on a series of tests that were conducted under the supervision of the Committee on Industrial Gas Research of the American Gas Association, of which F. J. Rutledge, of Philadelphia, Pa., is chairman, to determine the cost of completely conditioning whole residences in the summer, and to secure as far as possible the reaction of typical home owners to the service rendered and to secure operating data and operating experience with automatic, central, residential, gas-operated summer air-conditioning plants.

There are at least seven possible methods whereby gas heat energy can be converted into a summer air-conditioning effect, and each method can be interpreted by a number of mechanical systems. It will take some years before they can all be run down to determine the ultimate practicability and worth of each. The method used in the test houses is that known as the solid absorbent method and Silica Gel was the solid absorbent used, the machines adopted having been developed around the properties of that material.

Figure I shows diagrammatically the operation of the equipment used in all of the test houses except Dallas. Figure II is a flow sheet of the plant as installed in the Dallas house. In this instance, it will be noted, the use of tap water has been eliminated and water tower substituted.

The tests were conducted in various localities so as to get as far as possible a cross section of weather conditions and habits of living. The dwellings utilized are owned and occupied by typical American families who, except in one instance, had no connection with any organizations interested in air conditioning. Two of the houses are located in Chicago, and one each in Pelham, New York, Dallas and Baltimore. In each instance the local gas company serviced the installations and collected the data.

One of the objectives was to conduct the tests with summer conditioning apparatus that was capable from the same supply of fuel from which the winter air-conditioning plants operated. At the time the tests were started there had been developed and built one system capable of doing this and this system was therefore used in the field tests. This is the Silica Gel dehumidifying system. Since the tests were begun, several other systems have been brought to the point of practical application, notably those based on the use of steam jet vacuum refrigeration. Considerable progress has also been made toward perfecting other dehumidifying systems for residences, using both solid and liquid absorbents.

The air-conditioning plants were operated in the five dwellings during the past summer, and in two of the same dwellings during the previous summer. Test data was collected for the varying periods. The ap-

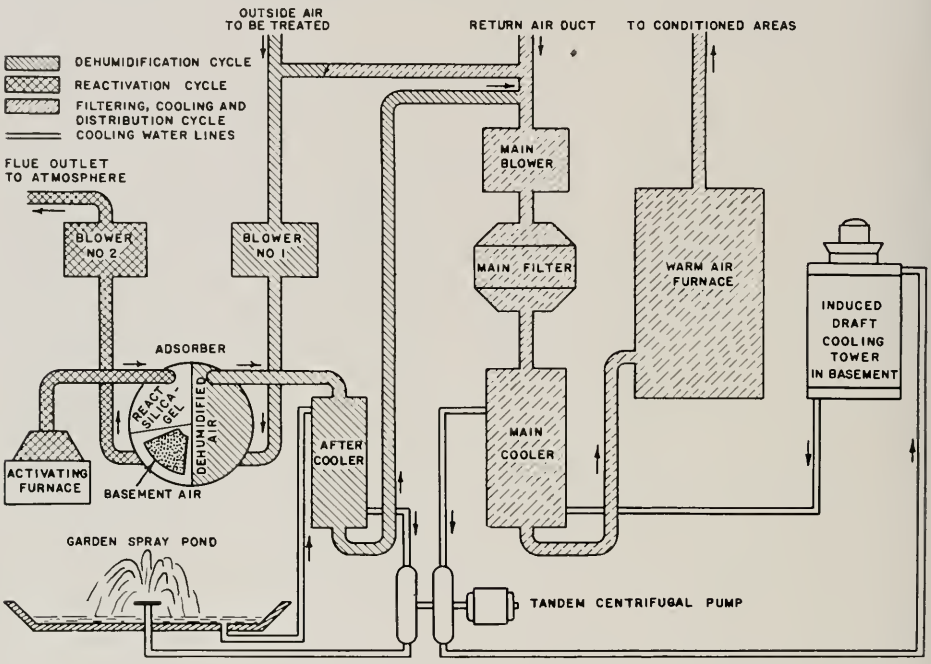


FIGURE 2—FLOW SHEET OF SILICA GEL GAS OPERATED RESIDENTIAL SUMMER AIR CONDITIONING SYSTEM, USING WATER TOWER

paratus is shown schematically in Figure I and Figure II.

A summary of the data collected is shown in Table I.

In studying this data it should be remembered that the chief objective was to let the

The dwellings are typical average size buildings ranging from 19,700 cu. ft. to 24,000 cu. ft. in size. They are in each instance heated automatically by means of gas - operated central warm - air heating plants, with forced circulation, air filters

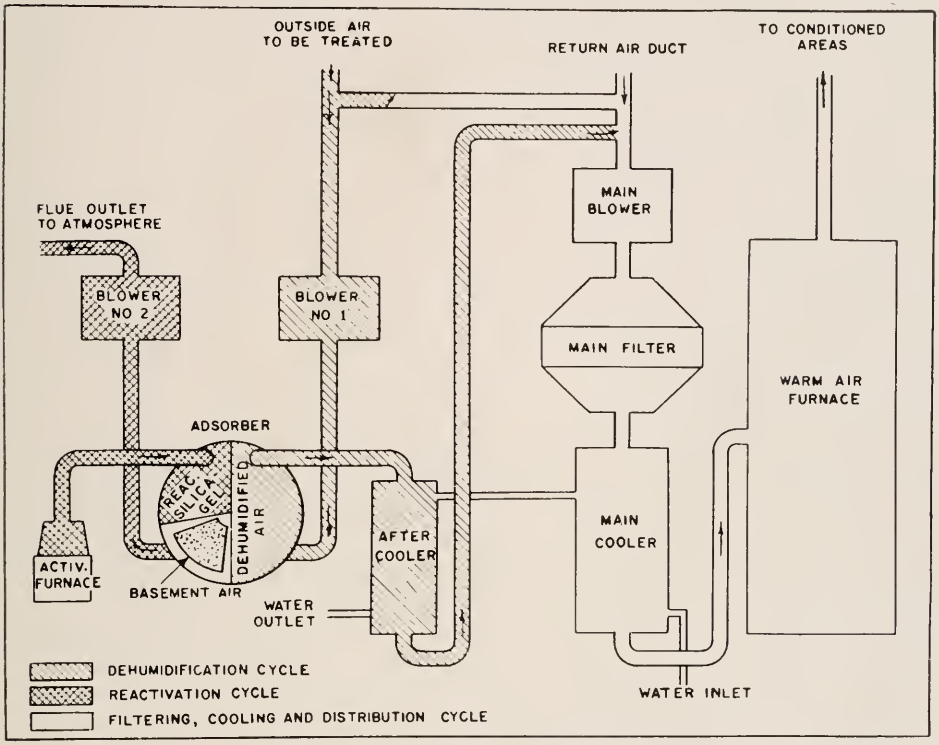


FIGURE 1—FLOW SHEET OF SILICA GEL RESIDENTIAL GAS OPERATED SUMMER AIR CONDITIONING SYSTEM

owners of the houses operate the plants as they desired, bearing in mind their own comfort and their own conception of the desirability or undesirability of utilizing this type of home service. The Baltimore house was the exception. The rather short period covered by the data presented from this house represented a few days during its operation as a display house. While not actually occupied as a dwelling at that time, it was in charge of a competent hostess who simulated conditions of family occupancy as closely as possible.

and humidifiers. In effect, they are fully air conditioned in the winter and the owners are persons who are entirely cognizant of the advantages of having their homes airconditioned in the winter and regularly pay the cost of this service as determined by local rates.

Due to a number of conditions, including late installation, it was impossible to secure a full, normal use of the plants throughout the summer. When the tests were first projected, it had been hoped that complete data could be secured, thus recording what

would be valuable and authentic data as to the number of hours usage that could be expected, per summer, of summer air conditioning when installed as an integral part of a complete year 'round home air-conditioning service.

From the data collected, however, it is possible to observe the hourly operating costs under different conditions. This varthe hourly cost and it is also possible to take such data resulting from the tests and use it as a basis for checking, to a degree, engineering estimates of the probable summer's usage.

Engineers have estimated that from 600 to 1200 hours per summer will represent the usage of residential summer air-conditioning plants.

TABLE I

American Gas Association—Committee on Industrial Gas Research

GAS-OPERATED SILICA GEL WHOLE HOUSE SUMMER AIR CONDITIONING
SUMMARY OF DATA COLLECTED IN OCCUPIED RESIDENCES

	Chicago No. 2 House 1932	Chicago No. 1 House 1931	Chicago No. 1 House 1932	Westchester County N.Y. House 1931	Westchester County N.Y. House 1932	Dallas House 1932	Baltimore House 1932
Conditioned Cubage	24000	22400	22400	22500	22500	19700	19300
General Operating Data							
Total No. of Test Hrs.	61	338	111	328	46	300	48
Total Gas Used, Cu. ft.	4930 CF	38850 CF	9750 CF	49200 CF	6665 CF	36000 CF	5260 CF
B.t.u.	(800)	(540)	(800)	(535)	(535)	(1000)	(500)
Total Power Used, Kw. Hr.	115	809	205.2	492	79	1320	61
Total Water Used, Cu. ft.	4130	17800	6216	11910	1785	.....	1560
Total Operating Cost During Tests							
Gas Rate/M cu. ft.	$ 0.64	$ 0.78	$ 0.64	$ 0.60	$ 0.60	$ 0.65	$ 0.62
Gas Cost	2.87	30.30	6.24	29.50	4.00	23.40	3.26
Power Rate/Kw. Hr.	0.037	0.037	0.037	0.05	0.05	0.022	0.0312
Power Cost	4.27	29.90	7.60	24.60	3.95	29.04	1.90
Water Rate/M cu. ft.	0.51	0.60	0.51	4.00	4.00	.. ....	1.00
Water Cost	2.14	11.66	3.17	47.70	7.13	.....	1.56
Total	$ 9.28	$71.86	$17.01	$106.45	$19.73	$52.44	$ 6.72
Hourly Operating Quantities							
Gas, Cu. ft./Hr.	73.5	118.6	88	150	145	120	110
Power, Kw.	1.89	2.39	1.85	1.5	1.72	4.4	1.27
Water, Cu. ft./Hr.	68.7	52.7	56	36.4	39.6	0.0	32.5
Average Operating Cost/Hour							
Gas	$ 0.047	$ 0.0925	$0.0561	$0.0900	$0.087	$0.078	$0.0682
Power	0.070	0.0885	0.0684	0.0750	0.086	0.094	0.0325
Water	0.035	0.0316	0.0285	0.1456	0.173	.....	0.0396
Total	$ 0.152	$ 0.2126	$0.1530	$0.3106	$0.346	$0.172	$0.1403

ies from 14.03 cents to 34.60 cents. If the Westchester house is excluded because of the unusually high water rate, the hourly cost would range from 14.03 to 17.2 cents.

The gas, water and electric rates are not the same in any of the localities selected. Also in no instance was any attempt made to dictate to the occupants the dry bulb temperature and relative humidity to be carried. These latter conditions were determined solely by the occupants and the plants were used or not used according to their individual desires. Except in the case of the Chicago No. 1 house and the Westchester house, the plants were not available for full summer's operation, due to late installation and shutdowns due to changes being made in equipment and controls.

From the tests which are reported in this paper, it is unfortunately impossible to draw exact conclusions as to the probable number of hours usage throughout normal summers. On the other hand, it is possible to draw accurate conclusions as to

From observing the operation of these field tests and from studying the data resulting from them, the author believes that the above figures are, at the present time, somewhat high. In the beginning, it is believed that an estimated use of from 400 to 700 hours per season will represent average practice. However, it is quite likely that current engineering estimates will be substantially reached as home air-conditioning becomes more generally accepted, and more installations are made and the public becomes more acclimated to living in the summer in houses that are fully conditioned throughout.

The tests indicated that in the practical operation of this type of home air-conditioning plants, considerable variation can be expected in the amounts of gas, water and power used. This is to be expected in the light of the variations in climate and in the living conditions which obtain in different residences. It should be noted that in each dwelling, the power used included

that required for circulating the conditioned air through the filters and through the house by way of the distribution and return ducts.

An interesting phase of the tests last summer was the manner in which the cooling water problem in the Dallas research residence was met. A study of the tap water temperatures in the summer indicated that it was too high to use and the cost element also made it desirable to devise some method to eliminate the direct use of tap water. (See Figure II).

There was an ornamental fish pond in the yard back of this house and an attempt was first made to utilize this as a water tower for the whole plant. A single spray was installed. Water was circulated from the pool through the main cooler, then through the after cooler and back to the pond through the spray. This gave satisfactory results in moderate weather, but it was realized that it would be unsatisfactory on days when the weather was extreme. The plant was consequently shut down and alterations were made. These alterations consisted of the installation of an indoor water tower equipped with a fan to rapidly circulate air through it. This air is taken in and discharged to the outside. The main cooler was connected to the indoor tower and the after cooler remained connected to the pond. The pumps on both water circuit were operated by a single motor. This arrangement proved satisfactory and conditions that were comfortable to the house owners were obtained during the balance of the season. With this layout make-up water only was necessary. The power consumption, however, increased somewhat. The success met with in conditioning this house with an indoor tower is considered important, as it demonstrated the practicability of not having to depend entirely upon drawing large quantities of water from the city mains and discharging it to the sewer. It is felt that this will be a protection to the growth of air conditioning in residences in localities where municipal and other restrictions are placed on the more or less unlimited use of water.

An interesting and important observation from the data obtained is the wide variation in the measured conditions maintained in the various dwellings. From Table I it can be seen that on typical days there was no uniformity as between any one house and the others. Left, as the plants were, to the operation of the home occupants, there was no uniformity from day to day of either dry bulb temperature or relative humidity. Whether or not this condition will obtain when large numbers of homes are fully conditioned can only be determined by experience. It is the belief of the author that the practice will develop among home owners of maintaining, in the summer, a much wider variation of conditions than is customary in the winter.

Conclusions:

1. The conditions maintained in the several dwellings were satisfactory to the owners and occupants and were regarded by them as a distinct contribution to better living.

2. The hourly operating cost of complete conditioning with heat energy for whole houses of average size and construction is from 14.03 per hour to 34.60 cents.

3. From the observed data (variations in which are attributable to local rates, water temperature, availability of water, and weather conditions as observed during these tests), the general conclusion can be reached that, in the territory as covered by the Dallas, Chicago, Baltimore and New York research dwellings, residences of from 20,000 to 25,000 cu. ft. can be conditioned with an operating cost that will probably not exceed $80 to $100 per season.

4. It may be expected that different users will select different conditions to be maintained in their homes for comfort, and that these conditions will probably vary from day to day.

5. Under normal operating conditions the relative quantities of heat energy, power and water will vary greatly, and will be governed not only by outside weather conditions, but by the inside conditions the owners select from day to day to give them maximum comfort.

SANTA BARBARA MISSION
ETCHING BY HENRY CHAPMAN FORD

CONSTRUCTION INDUSTRY SUBMITS NRA CODE

THE National Code Committee of the construction industry appointed by the Construction League of the U. S. has submitted to the National Recovery Administration a master code with a request that it be approved and substituted for the President's blanket code. Compliance with its provisions will become mandatory as soon as it is signed by the President and it will govern not only inter-state business but also all strictly intrastate construction in California, as Governor Rolph signed Assembly Bill 2432, making the National Industrial Recovery Act operative in this state, and also, the supplementary Assembly Bill 2400 on August 5.

At the request of Malcolm Muir, deputy National Recovery Administrator, the American Institute of Architects and the American Society of Civil Engineers have submitted codes for the architectural and engineering groups, both of which the administrator holds are units of the construction industry.

The master code for the construction industry is broadly framed. It provides for a minimum hourly wage of 40 cents, an average work week of 35 hours during any six months' period, with a maximum 48-hour week and 8-hour day. Trade practices are left to the individual codes with the exception that a ban is placed on the practice of "bid peddling" and all individual codes must make provision to enforce the rule. Text of the master code as submitted follows:

To effectuate the policy of Title I of the National Industrial Recovery Act during the period of the emergency, the Construction League of the United States, a membership organization of national trade associations and professional bodies, pursuant to the purpose of the construction industry to co-operate with the President of the United States, submits for approval, pursuant to Section 3 of the said Title, the following Code of Fair Competition and plan for its administration for all construction work. It shall be supplemented by codes of fair competition to be submitted by the various representative national trade associations and professional bodies.

1. The Construction League of the United States imposes no inequitable restrictions to membership therein, and is truly representative as a national organization of the Construction Industry.

2. This code will not promote monopolies or eliminate or oppress small enterprises and will not operate to discriminate against them and will tend to effectuate the policy of said Title I. It is expressly recognized that the President of the United States may, as a condition of his approval of this code, impose such conditions (including requirements for the making of reports and the keeping of accounts) as may be expedient in the furtherance of the public interest for the protection of consumers, competitors, employees, and others, and may provide such exceptions to and exemptions from the provisions of this code as the President of the United States in his discretion deems necessary to effectuate the policy herein declared.

3. To induce and maintain the united action of all elements of the Construction Industry under adequate governmental or private sanctions and supervision, to eliminate unfair competitive practices and to advance the public interest, to reduce and relieve unemployment, to improve standards of labor and living and otherwise to rehabilitate the Construction Industry, and effectuate the policies set forth in the National Industrial Recovery Act, this Code of Fair Competition governing the Construction Industry is adopted.

4. *Definition*—The Term "Construction Industry" as used herein is defined to mean the de-

signing, the constructing, and the assembling, installing and applying of manufactured parts and products and the supplying of materials of (a) building structures, including modifications thereof and fixed accessories thereto, intended for use as shelter; and (b) fixed structures and other fixed improvements and modifications thereof intended for use in sanitation, transportation, communications, flood control and water power development, reclamation and other similar services required for the public welfare; and the term "Construction Industry" is further defined to include those persons who perform such functions, being commonly known and sometimes defined by law, as architects, engineers, contractors, subcontractors, producers, fabricators and distributors. The term "person" as used herein is taken to mean a natural person, partnership, company, association, corporation or agency.

5. Employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the labor, or their agents, in the designation of such interference, restraint, or coersion of employers of representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection.

6. No employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing.

7. Employers shall comply with the maximum hours of labor, minimum rates of pay and other conditions of employment, approved or prescribed by the President.

8. *Minimum Wages*—Employers in the Construction Industry shall pay wages not less than the minimum rates which are established regionally or locally by mutual agreements between truly representative groups of employers and employees and approved by the President, as provided by Section 7 (b) of the National Industrial Recovery Act. Where such rates are not so established the minimum rate of wages shall be not less than forty cents (40c.) per hour, unless the hourly rate for the same class of work on July 15, 1929, was less than forty cents (40c.) per hour, in which case the hourly rate shall be not less than that of July 15, 1929, and in no event less than thirty cents (30c.) per hour, except where a lower minimum rate has been otherwise established for specific projects by competent governmental authority acting in accordance with law.

9. *Maximum Hours* — Employers within the construction industry shall not require any individual directly employed on any construction project to work more than an average of 35 hours a week for any six months period but with the right to work a maximum week of 48 hours in such period but not more than 8 hours in any one day, except those in executive, administrative and supervisory position, and except in cases of emergency requiring the protection of life or property.

10. Nothing herein shall be construed as preventing voluntary agreements establishing a lesser maximum number of hours as provided in the National Industrial Recovery Act.

11. Employers in the construction industry shall not employ any minor under the age of 16 years unless otherwise provided in state laws.

12. The President of the United States may cancel or modify any provision in this Code of Fair Competition for the Construction Industry.

13. Amendments or revisions may be proposed by any party of interest and when within the construction industry such proposals shall be made through the national trade associations or professional body representative of that function within the construction industry to which the proponent is classified.

14. *Administration Committee*—To effectuate the purpose of this code and provide for administration within the industry there is established a "National Industrial Administrative Committee" which shall be the policy committee of the Construction League of the United States and three members to be appointed by the Administrator of the National Recovery Act. This committee shall have authority to establish subcommittees and local, state or regional committees, subcommittees or agencies, with such delegated powers as it may deem necessary. This committee may from time to time present to the Administration recommendations based on conditions in the industry as they may develop, which will tend to effectuate the operation of the provisions of this code and such supplemental codes proposed or made a part of this code and the policy of the National Industrial Recovery Act.

15. *Supplemental Codes*—It is intended that this code for the construction industry be amplified and expanded by supplemental codes prepared and proposed by national trade associa-

tions and professional bodies within the construction industry representative of the various functions of the construction industry or sub-divisions thereof. These supplemental codes shall be administered by their own administration committees or agencies which in turn may appeal to the national administrative committee herein established in the event of any controversy arising under the National Industry Recovery Act.

16. Supplemental codes prepared by national trade association or professional bodies within the construction industry may be proposed to the Administrator of the National Industrial Recovery Act by the national administration committee of the construction industry when consistent with this code and other rules or regulations promulgated by the President and with the spirit and purpose of the National Industrial Recovery Act. Nothing herein contained shall be construed to prevent a trade association from submitting a code to the National Administrator direct.

17. No one in the construction industry shall be a party to the unfair practice known throughout the industry as "bid peddling." All supplemental codes before receiving the approval of the national administrative committee shall contain provisions to enforce this rule.

18. *Administrative Expense*—All persons as defined in this code shall bear their proportionate share of the expense incident to securing the approval of and administration of this code of fair competition under such rules and regulations as may be approved by the President under section 10 (A) of Title I of the National Industrial Recovery Act.

19. *Effective Date*—This code shall become effective on approval by the President of the United States and shall be applicable to all construction work undertaken pursuant to contracts entered into or otherwise commenced after such approval date.

SAN JOSE MAN ACQUITTED

Herman Krause, architect-designer of San Jose, charged on August 7 with violating the state contractors' law, was found not guilty during a trial before Police Judge Percy O'Connor. When it was explained to the court that Krause did not engage in the business of contracting, and was not, in fact, a contractor, the court found him not guilty without the defense having put on its case.

ARCHITECTS FILE PRACTICE CODE

ACTING for the nation's architectural profession, and in close association with the building industry, the American Institute of Architects, of which E. J. Russell of St. Louis is president, has decided to file a code of fair practice under the provisions of the National Recovery Act.

William Stanley Parker of Boston has been appointed chairman of a code committee of the Institute, other members of which are: Frederick Mathesius, Jr., New York; William G. Nolting, Baltimore; Horace W. Peaslee and Francis J. Sullivan, Washington.

Through the Construction League of the United States, the building industry is also framing a code. Stephen F. Voorhees of the New York Chapter of the Institute heads a code committee of the League. The other members of the League Code Committee are: F. P. Byington, Willard T. Chevalier, C. H. Dabelstein, and Colonel J. P. Hogan, all of New York; A. E. Horst and William Steele, III, Philadelphia; P. W. Donoghue, Washington.

"It is our belief that the Act does not contemplate the need of codes for those having purely professional activities," says a statement by the Institute code committee, made public following conferences with the league committee. "We believe, however, that the various professions related to the construction industry have industrial relations that make it inevitable that they be included in the code for the construction industry, being in fact already involved by references in other codes.

"Inasmuch as they will thus be involved in a code, they must, perforce, include in such code the fundamental provisions that the National Recovery Act requires. For this reason, while there may be purely professional relationships between the designer and his client, the questions of minimum wages and maximum hours—and probably minimum fees—must be included in the code for the architect and in the similar codes for the other professions having to do with design.

"We understand that the present concept of a general code for the construction industry embraces a section that will cover the general provisions concerning administration of that code and those other provisions that will apply in common to all elements in the industry alike. All other provisions, we understand, will be included in the

separate subordinate codes that will be a part of the composite code for the construction industry.

"It is not possible yet to determine just what items concerning architects will be covered by the general code, but whether covered in the general code or in the architects' code the committee believes that the following items must be covered:

"Definition of the function and qualifications of the architect and his relation to the construction industry, together with a statement that the architect shall not function as a contractor, making clear the distinction between the legitimate supervisory and co-ordinating services of an architect and the supervisory and co-ordinating functions of a contractor.

"Regulations governing relations with employees, including minimum wages, maximum hours, and age limit.

"Statement of the proper basic minimum charge for full professional services in line with present Institute standards.

"Statement that the architect's charges are made solely to his client and that he shall not give or receive any rebates or favors as a subterfuge to reduce or to increase his fee, and that he shall not knowingly compete with another architect on the basis of professional charges.

"Statement that if an owner desires simultaneous sketches from two or more architects for the same project, they shall be prepared in accordance with standard practice in such cases, as evidenced by the Competition Code of the American Institute of Architects.

"Statement that the architect is responsible for making all plans and specifications necessary for work under his charge, and that he shall not permit contractors or others to perform part of this function for him without proper compensation.

"Statement that the conditions of the Contract Documents of the American Institute of Architects, Fourth Edition, shall be considered as standard contract procedure, to be conformed to so far as practicable in each building operation.

"Statement that all designs, products, and methods shall conform to established rules for public welfare.

"Statement that drawings, specifications, and instructions shall, for purposes of estimate, be adequate to permit an intelligent estimate of cost, and that they shall include all necessary local rules and instructions affecting costs.

"Statement that the provisions of the general code for the construction industry shall form part of the architects' code."

President Russell declared in a statement that architects are confronted with a condition and not a theory. "The American Institute of Architects," he continued, "is giving its best thought to safeguarding the interests of the building public and of the architectural profession under new conditions, and with the full intention of taking our part in this vital recovery program in which the whole nation is engaged."

ARTHUR P. DAVIS

Arthur Powell Davis, for 21 years director and chief engineer of the U. S. Reclamation Service, died at his home in Oakland, August 7, after an illness of several months, at the beginning of which he underwent an operation at University of California hospital in San Francisco. He had only recently been appointed a consulting engineer on the Hoover dam project.

Mr. Davis was born on a farm near Decatur, Illinois, February 8, 1861. He entered the Government service when he was 21 years of age, being attached to the Geological Survey. During his long connection with the Reclamation Service he explored the route for the proposed Nicaraguan canal, and for his report was voted an honorarium by Congress. He also had a part in the Panama canal project as well as the Hoover and Coolidge dam projects.

JOHN B. RICHARDS

John B. Richards, former city architect of Calgary, Canada, who came to California in 1923, died of heart disease while driving his automobile in Los Angeles, August 12. His home was at 1116 Twenty-fourth Street, Santa Monica. For nine years Mr. Richards was associated with Frank A. Garbutt as head of the construction department of the Los Angeles Athletic Club, building the Riviera Country Club and several other club buildings. At the time of his death he was associated with a company of builders in Los Angeles.

BAYWOOD RESIDENCE

William H. Topeke, Call Building, San Francisco, has completed plans and specifications for a Spanish style residence in Baywood, San Mateo County, for Ernest C. Pierrie. The house will have six rooms, two baths, garage, tile roof, oak floors and hot water heating system.

« « « « With the Architects » » » »

SAN FRANCISCO BREWERY

Cahill Brothers of San Francisco have been awarded the contract to build a new brewery in the Paul Tract, Bayshore Avenue and 3rd Street, San Francisco, for C. W. Ahrens and Associates. The operating company will be known as the General Brewing Company. The project will represent an investment of $750,000.

OAKLAND AND BERKELEY MARKETS

Two new market buildings have been leased by the Henslee Corporation, 366 17th Street, Oakland, both of which will be constructed by E. Lay Construction Company, 830 East 11th Street, Oakland. One will be built in North Berkeley at a cost of about $25,000, and the other on Park Boulevard, Oakland.

REDWOOD CITY BUILDING

Contracts have been awarded by Supervising Architect G. A. Lansburgh of San Francsico, for a two-story reinforced concrete mercantile building in Redwood City, to be occupied by Montgomery Ward & Company. The total cost of the improvements will be about $60,000.

BUSY ON RESIDENCE WORK

Mario Corbett, architect, 683 Sutter Street, San Francisco, has completed plans for a residence in Silver Terrace, San Francisco, to cost $4500 and a house in Daly City for Louis Donatti to cost $4500. Also, a new home in Crockett for Glenn L. Markeley.

SACRAMENTO SHOP BUILDING

Plans have been prepared by George B. McDougall, State Architect, for a new headquarters shop building at Sacramento for the State Highway Department. Structure will be of reinforced concrete and bids will be received until 2:00 p. m., September 20th.

WATSONVILLE PACKING HOUSE

A. W. Story of Watsonville has prepared plans for a small frame and corrugated iron packing shed to be built in Watsonville for Mr. Strobel, to be 50x135 feet.

FRENCH TYPE DWELLING

Harvey E. Harris and Robert Bird, 38 San Fernando Way, San Francisco, have prepared drawings for a two-story and basement modern French type dwelling to be built on the Marina Boulevard near Webster Street, San Francisco, for Dr. Bernard A. Cody. The same architects are preparing preliminary plans for a Spanish residence on Casa Way near Marina Boulevard, San Francisco, for an unnamed client, to cost $10,000.

MASTEN & HURD BUSY

Plans are being completed by Masten & Hurd, architects, 233 Post Street, San Francisco, for a five-story reinforced concrete coffee factory and office building at Harrison and Hawthorne Streets, San Francisco, for the George W. Caswell Company.

The same architects have let contracts for a residence in St. Francis Wood for Dr. J. L. Carr and for a residence in the same tract for L. W. Stocker.

BERKELEY CLEANING PLANT

Plans have been completed by Albin Froberg, architect, 1955 Webster Street, Oakland, for a one-story, steel frame and brick cleaning and dyeing plant to be built on Shattuck Avenue, Berkeley, for the Marshall Steel Company of that city. The estimated cost is $40,000.

STORE AND LOFT BUILDING

Gladys D. Layton is the owner of a three-story and basement reinforced concrete store and loft building which Gardner A. Dailey has designed for erection on Third Avenue, San Mateo. The investment will cost about $30,000.

MUNICIPAL WATER PLANT

The Roseville City Council has advocated a special election to vote on the proposition of acquiring a municipal water system. The estimated cost is $250,000.

STORE ALTERATIONS

Albert J. Evers has prepared plans for alterations to the store building at 1907 Broadway, Oakland, for Albert M. Samuels Company, lessee.

REMODEL SHELTER

Alterations and additions have been planned by Arnold S. Constable, architect, 580 Market Street, San Francisco, to the St. Patrick's Shelter on Minna Street, between 3rd and 4th Streets, San Francisco. The improvements will provide a large recreation hall and will cost $6000.

PHYSICIAN'S OFFICE BUILDING

Charles E. Butner, architect, Cory Building, Fresno, has completed plans for a two-story frame and stucco medical office building to be built on Folsom Street near Sumner Avenue, Fresno, for Dr. Roscoe F. Wallace. The cost is estimated at $16,000.

HILLSBOROUGH RESIDENCE

Drawings have been completed in the office of Arthur Brown, Jr., 251 Kearny Street, San Francisco, for alterations and additions to the residence of Paul I. Fagin in Hillsborough. Improvements will cost about $70,000.

TURLOCK STORE BUILDING

A one-story brick store building is to be rebuilt in Turlock from plans by G. N. Hilburn, architect, of Modesto. The building was badly damaged by fire. There will be five stores.

REMODEL LONG BEACH CHURCH

About $100,000 will be expended in remodeling the First Christian Church at Long Beach. W. Horace Austin, 532 Chestnut Street, Long Beach, is the architect.

HEALDSBURG RESIDENCE

Plans have been completed by William Herbert, architect of Santa Rosa, for a one and one-half story frame residence to be built in Healdsburg, Sonoma County, for Rayford Jones.

BURLINGAME RESIDENCE

A $4500 residence is planned for Burlingame from drawings by D. E. Jaekle, Call Building, San Francisco. The owner is Charles Hammer, 1524 Floribunda Avenue, Burlingame.

WATSONVILLE MEMORIAL HALL

Final drawings are being made by A. W. Story for a reinforced concrete veterans' memorial building in Watsonville, estimated to cost $50,000.

PERSONAL

Emory Glen Morgan and Don M. Clippinger, architects of Seattle, have opened an office for the practice of their profession at 1008 American Bank Building, Seattle.

David R. Myers, student in architecture at the University of Washington, and associated with his father, David J. Myers, A. I. A., Central Building, Seattle, has returned to his accustomed haunts after spending a year of study and travel in Europe.

Alban A. Shay, Seattle architect, is enjoying a three-weeks vacation trip in the eastern part of the United States. His first important stop is Chicago, where he will visit A Century of Progress Exposition.

Joseph Wohleb, architect who has earned a wide professional reputation while practicing his profession in the Evergreen State Capital, was recently appointed to serve a second eight-year term on the city planning commission, Olympia.

Russell and Lance, architects of Tacoma, are now occupying quarters at 319 South Seventh Street.

A. Gordon Lumm, Tacoma architect formerly associated with Russell and Lance in the Jones Building, is continuing his architectural practice at his home, 1617 Division Avenue.

Four Seattle architects of the younger generation, Paul Thiry, Lowell V. Casey, John I. Mattson and Leonard W. S. Bindon, are keeping their drawing boards busy in a new studio suite at 823 Skinner Building.

Walter W. Lund, architect who graduated from U. of W. several years ago, has opened an office at 515 Pantages Building, Seattle.

Roy W. Morse is now associated with his father, W. Chester Morse, former city engineer of Seattle, with offices in the Smith Tower, Seattle. The former has made a special study of stress design and analysis.

James E. Blackwell, architect and engineer, Medical Art Building, Seattle, has completed plans for the new female ward at the Northern State Hospital.

FRESNO BREWERY

W. D. Coates, Jr., architect, Rowell Building, Fresno, is preparing plans for a brick brewery to cost $150,000 for the Fresno Madera Ice Company and Yosemite Ice Cream Company. Construction is expected to go forward within thirty days.

Chapter and Club Meetings

SOUTHERN CALIFORNIA CHAPTER ARCHITECTS' CODE

Presentation of the tentative code for architects under the National Recovery Act featured the regular monthly meeting of the Southern California Chapter, American Institute of Architects, at the University Club in Los Angeles, August 14. The code, prepared by a special Institute committee, has been approved in tentative form by the executive committee of the Chapter and by the executive board of the State Association of California Architects. The document, in its completed form, will be made public within a few days. The committee that drafted the code was composed of Frederick Mathesius, Jr., William G. Nolting, Horace W. Peaslee, Francis J. Sullivan, and William Stanley Parker.

Ely Kahn, a member of the New York Chapter and chairman of the educational committee of the Institute, was a guest of the local Chapter. Mr. Kahn talked on educational matters, pointing out the field that exists for design in making furnishings for buildings. He also stated that his committee time had been devoted principally to contacting heads of large industrial establishments.

Dr. Eugene Gustav Steinhof, art educator of Vienna, was also a guest. Doctor Steinhof has been lecturing in American colleges during the past year.

The following members and guests were present: Richard J. Nutra, Mr. Zisman, Dr. Eugene Gustav Steinhof, S. Charles Lee, Edward Cray Taylor, Llewellyn A. Parker, A. C. Weatherhead, Joseph Kaiser, Harold G. Spielman, Breo A. Freeman, Huntington Barker, E. R. C. Billerbeck, G. W. Burrows, Sumner Spaulding, J. Robert Harris, H. C. Deckbar, John P. Pedersen, Palmer Sabin, Robert Dunlop, Kirtland Cutter, Jess J. Jones, Paul R. Williams, Yos Hirose, Clarence A. Kelso, Arthur C. Munson, H. E. Mackie, John T. Vawter, Gene Verge, Walter E. Erkes, Harold Cross, E. Allan Sheet, Gordon B. Kauffmann, Ely Kahn, F. J. Miller, H. S. Gerity, G. Stanley Wilson, Albert Haight, George B. Allison, Robert H. Orr, H. C. Chambers, Fitch H. Haskell, R. M. Crosby, Harry T. Miller, A. B. Rosenthal, H. B. Aarens, A. S. Nibecker, Jr., Ellis Wing Taylor, Robert F. Train, Charles Cressey, M. G. Cantell, Horatio W. Bishop, George E. Gable, Charles F. Pyke, Herman Spackler, Walter S. Davis, Albert M. Pyke, J. E. Dolena, Allen G. Siple, D. C. Allison, C. H. Cheney, Marcus P. Miller, R. M. Kennedy, Samuel E. Lunden, Ralph C. Flewelling, R. Germain Hubby, H. Roy Kelley, Sumner Hunt, J. E. Allison, Paul Robinson Hunter, Alfred W. Rea, Jonathan Ring, C. Raimond Johnson, William H. Kraemer, A. M. Edelman, Vincent Palmer, David J. Witmer, W. H. Harrison, Henry F. Withey, Claud Beelman.

OREGON CHAPTER

The Oregon Chapter, A. I. A., held a regular meeting at the office of A. E. Doyle and Associate Architects, August 15, at 3:30 P. M.

Those present: Messrs. Crowell, Herzog, Williams, Doty, Johnson, Holford, Aandahl, Parker, Whitney, Jacobberger, Church, Brookman, Sundleaf and Howell. John J. Donovan of Oakland was a guest.

President Crowell presided.

The minutes of the previous meeting were read and approved.

Mr. Parker made a written report for the Building Laws Committee on the proposed Housing Code, recommending that the Code be approved by the Chapter. Mr. Herzog moved approval of the Code which was seconded and carried.

Messrs. Parker and Doty were instructed to provide publicity for the public hearing on the Code, August 24th.

The matter of a competition for an armory was discussed. Mr. Holford moved that the Chapter instruct representatives of the executive competition and public works committee to wait on the County Commissioners, and as a result of their discussion, advise the commissioners to name an architect by direct selection, or by an A. I. A. competition, as their best judgment may direct;

further that this delegation offer the Chapter's services in the selection of a site, stressing the desirability of having this site conform to a comprehensive City Plan. The motion was seconded by Mr. Doty and carried.

Mr. Donovan made an informal talk which was enjoyed by all present.—L. D. H.

IDAHO BUILDING CONGRESS

The Idaho Building Congress has been organized at Boise with the following officers: President, Bert Stone; vice-president, J. C. Jordan; treasurer, W. W. Howell; and secretary, A. Roy Flagler. The board of directors is composed of Ernest Day, J. C. Doerr, J. W. Crowe, C. W. Wayland, F. C. Hummel and W. E. Gnadt. Members of the survey and promotion committee are: J. A. Fennell, F. C. Hummel, W. H. Hopper, J. G. Doerr, H. L. Senger, Paul Moehlman, Ed Lessinger and Earl Little, Chairman. The publicity and program committee is composed of H. R. Chatterton, Ernest Day, F. L. Finklea and H. R. Cleaver.

The new organization is participating in the National Recovery Act and is planning to cooperate with the state advisory board formed to pass an projects eligible for Federal funds under the emergency relief act. Local chapters are to be established throughout the state.

Major divisions of the Idaho Building Congress include architects, brick and clay products, building contractors and sub-contractors, building owners and operators, cement and plaster products, craftsmen, electrical supplies and electrical contractors, engineers, financial agencies, hardware dealers, lumber and mill products, metal products, paint and glass distributors, plumbing and heating contractors, realtors, stone, marble and granite products and utilities.

LECTURES ON CONCRETE DESIGN

New engineering courses will be started this fall under the auspices of the University of California Extension Division.

Victor E. Johnson inaugurated a course in "Reinforced Concrete Design," Wednesday evening, September 6, in the Extension Building, 540 Powell Street, San Francisco.

Norman B. Green will give instruction in "Strength of Materials."

According to Miss Bernice Hubbard, Extension Division official, a course in "Air Conditioning" will be arranged if sufficient requests are received for such instruction. The course will cover general principles, as well as commercial, industrial and residential problems.

WARREN A. BECHTEL

Warren A. Bechtel of San Francisco, president of the Six Companies, Inc., contractors on the Hoover dam project, died August 28 at Moscow, Russia. Mr. Bechtel had been suffering from diabetes for a number of years and his death was caused by an overdose of insulin which he had been taking on his physician's advice, according to an Associated Press dispatch. He had been in Moscow three days, having gone to Russia to study the industrialization program of the Soviet government.

Mr. Bechtel was born in Freeport, Ill., September 12, 1872, and grew up on a farm in Kansas. His first construction experience was in railroad building in which he achieved success. He was instrumental in organizing the Six Companies, Inc., to bid on the Hoover dam project and became head of the company when W. H. Wattis, first president, died shortly after the work had been started. Recently he became identified with the Bridge Builders, Inc., a syndicate which secured a $4,490,000 contract for building the substructure of the San Francisco-Oakland Bay Bridge east of Yerba Buena Island.

Mr. Bechtel was past national president of the Associated General Contractors of America, in which organization he took an active interest.

ARCHITECTS GIVE TALKS

Charles Butner, architect of Fresno, was principal speaker at a luncheon meeting of the Salinas Exchange Club recently.

Mr. Butner discussed the general national building situation and reviewed the value of architectural study in the building of beautiful homes and cities. Of particular interest was his review of the Dayton unit plan of housing, a project which the city of Dayton is developing through the aid of the government, to house part-time workers.

At San Jose, Ralph Wyckoff, architect, addressed the 20-30 Club, tracing the history of architecture down to the modernistic trends of today.

HAS AN OREGON LICENSE

A. C. Williams whose home is in Berkeley and who has been doing some interesting store fixture designing in Portland, Oregon, has been granted a license to practice architecture in Oregon. Mr. Williams' sketches are well known to ARCHITECT *and* ENGINEER readers. He will soon contribute an article for this magazine on "Department Store Architecture" with particular reference to display fixtures.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Owing to the various crafts accepting the NRA code of fair competition, in some cases they have adopted a schedule of prices, and it therefore would be advisable to get in touch with these firms direct.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

NOTE—Add 2½% Sale Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—

Common, $30 to $35 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.75 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $27 to $45 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	174.00 per M

HOLLOW BUILDING TILE (f.o.b. job)
carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Durafiex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—45c to 60c per sq. ft.

Terazzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.45 per bbl.
Cement (f.o.b. Job, Oak.) $2.45 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 30c per cu. ft.
4-inch concrete basement floor.....12½c to 14c per sq. ft.
4½ inch Concrete Basement floor ..... 14½c to 16c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Meduca Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 40 cents; clay or shale, 80c per yard.
Teams, $10.00 per day.
Trucks, $18 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs. $75.00 per balcony, average.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 70c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 30c per square foot.
Obscure glass, 26c square foot.
Note—Add extra for setting.

Heating—

Average, $1.90 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)

Common, $28.00 per M (average).
Common O.P. select, average, $34.00 per M.

1x6 No. 3 Form Lumber	$18.00 per M
1x4 No. 1 flooring VG	50.00 per M
1x4 No. 2 flooring	44.00 per M
1x4 No. 3 flooring	32.50 per M
1x6 No. 2 flooring	46.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1x4 No. 2 flooring	$44.00 per M
1x4 No. 3 flooring	38.00 per M
No. 1 common run T. & G.	36.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdl.e
Redwood, No. 2	.70 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
13-16x3¼" T & G Maple	$120.00 M ft.		
1 1-16x2¼" T & G Maple	132.00 M ft.		
⅞x3½ sq. edge Maple	140.00 M ft.		
Clr. Qtd. Oak	$200.00 M	$150.00 M	$180 M
Sel. Qtd. Oak	140.00 M	120.00 M	135 M
Clr. Pla. Oak	135.00 M	107.00 M	120 M
Sel. Pla. Oak	120.00 M	88.00 M	107 M
Clear Maple	140.00 M	100.00 M	
Laying & Finishing	13c ft.	11 ft.	10 ft.

Wage Floor layers, $7.50 per day.

Building Paper—

1 ply per 1000 ft. roll	$3.00
2 ply per 1000 ft. roll	4.25
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	4.20
Pro-tect-o-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights cast iron, $50.00 ton
Nails, $3.25 base.
Sash weights, $45 per ton.

Millwork—

O. P. $90.00 per 1000. R. W., $96.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.00 aud up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.25 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $4.00 each.
Pateut screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.50 each.
Dining room cases, $5.50 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $9.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work ..... 29c per yard
Three-coat work ..... 40c per yard
Cold Water Painting .....10c per yard
Whitewashing ..... 4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.
Raw Linseed Oil—80c gal. in bbls.
Boiled Linseed Oil—85c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.
1 ton lots, 100 lbs. net weight 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch ..... $1.00 lineal foot
8-inch ..... 1.50 lineal foot
10-inch ..... 1.75 lineal foot
12-inch ..... 2.00 lineal foot

Plastering—Interior—

Yard
1 coat, brown mortar only, wood lath....$0.36
2 coats, lime mortar bard finish, wood lath ..... .45
2 coats, hard wall plaster, wood lath.... .50
3 coats, metal lath and plaster ..... .90
Keene cement on metal lath 1.10
Ceilings with ¾ hot roll channels metal lath ..... .65
Ceilings with ¾ hot roll channels metal lath plastered 1.30
Shingle partition ¾ channel lath 1 side .60
Single partition ¾ channel lath 2 sides 2 inches thick 2.00
4-inch double partition ¾ channel lath 2 sides 1.20
4-inch double partition ¾ channel lath 2 sides plastered 2.25

Plastering—Exterior—

Yard
2 coats cement finish, brick or concrete wall .....$ .90
2 coats Atlas cement, brick or concrete wall 1.15
3 coats cement finish No. 18 gauge wire mesh 1.60
3 coats Medusa finish No. 18 gauge wire mesh 2.90
Wood lath, $4.00 per 1000.
2.5-lb. metal lath (dipped)..... .17
2.5-lb. metal lath (galvanized)..... .20
3.4-lb. metal lath (dipped)..... .22
3.4-lb. metal lath (galvanized)..... .28
3/4-inch hot roll channels, $72 per ton.
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.50 per square for 30 squares or over.
Less than 30 squares, $5.75 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$90 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel; average building, $87.00.

Steel Reinforcing—

$75.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00, Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

SAN FRANCISCO BUILDING TRADES WAGE SCALE FOR 1933

Established by The Impartial Wage Board November 9, 1932. Effective on all work January 1, 1933, to remain in effect until June 30, 1933, and for so long thereafter as economic conditions remain substantially unchanged.

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein.

CRAFT	Journeyman Mechanics
Asbestor Workers	$6.40
Bricklayers	9.00
Bricklayers' Hodcarriers	5.60
Cabinet Workers (Outside)	7.20*
Caisson Workers (Open) Water Work	8.00
Carpenters	7.20*
Cement Finishers	7.20
Cork Insulation Workers	7.20
Electrical Workers	8.00
Electrical Fixture Hangers	7.00
Elevator Constructors	8.68
Elevator Constructors' Helpers	6.08
Engineers, Portable and Hoisting	8.00
Glass Workers (All Classifications)	6.80
Hardwood Floormen	7.20*
Housemovers	6.40
Housesmiths, Architectural Iron (Outside)	7.20
Housesmiths, Reinforced Concrete, or Rodmen	7.20

*Established by Special Board

CRAFT	Journeyman Mechanics
Iron Workers (Bridge and Structural)	9.60
Iron Workers (Hoisting Engineers)	10.00
Laborers (6-day week)	5.00
Lathers, Channel Iron	8.00
Lathers, All Other	6.80
Marble Setters	8.00
Marble Setters' Helpers	5.00
Millwrights	7.20*
Mosaic and Terrazzo Workers (Outside)	7.20
Mosaic and Terrazzo Helpers	5.00
Painters	7.00
Painters, Varnishers and Polishers (Outside)	7.00
Pile Drivers and Wharf Builders	$ 8.00
Pile Drivers Engineers	9.00
Plasterers	8.80
Plasterers' Hodcarriers	6.00
Plumbers	8.00
Roofers (All classifications)	6.40
Sheet Metal Workers	7.20
Sprinkler Fitters	9.00
Steam Fitters	8.00

CRAFT	Journeyman Mechanics
Stair Builders	7.20*
Stone Cutters, Soft and Granite	6.80
Stone Setters, Soft and Granite	8.00
Stone Derrickmen	7.20
Tile Setters	8.00
Tile Setters' Helpers	5.00
Tile, Cork and Rubber	7.20
Welders, Structural Steel Frame on Buildings	9.60
Welders, All Others on Buildings	8.00
Auto Truck Drivers—Less than 2,500 lbs.	5.50
Auto Truck Drivers—2,500 lbs. to 4,500 lbs.	6.00
Auto Truck Drivers—4,500 lbs. to 6,500 lbs.	6.50
Auto Truck Drivers—6,500 lbs. and over	7.00
General Teamsters, 1 Horse	5.50
General Teamsters, 2 Horses	6.00
General Teamsters, 4 Horses	6.50
Plow Teamsters, 4 Horses	6.50
Scraper Teamsters, 2 Horses	6.00
Scraper Teamsters, 4 Horses	6.00

GENERAL WORKING CONDITIONS

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period shall be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
5. The wages set forth herein shall be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
8. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
9. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time. Irrespective of starting time, overtime for Cement Finishers shall not commence until after eight hours of work.
10. On Saturday Laborers shall be paid straight time for an eight-hour day.
11. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 6 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter (provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section).
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided shall be entitled to two hours' pay.
16. This award shall be effective in the City and County of San Francisco.

NOTE: Provision of paragraph 13 appearing in brackets ( ) does not apply to Carpenters, Cabinet Workers (Outside), Hardwood Floormen, Millwrights, or Stair Builders.

ORCHID CULTURE

The following article on orchid culture is appropo to the ninth annual California Flower Festival, a non-profit civic enterprise, to be held in San Leandro this month:

Suppose that after seven years of careful nursing, diet, supervision and temperature regulation, you found that the baby wasn't worth keeping, and had to be thrown away? That's what happens to people who grow baby orchids. For it takes seven years of special feeding, repotting and constant surveilliance before a new species blooms and its creator may pass judgment on it.

At his extensive hot houses at Larkspur on the beautiful Marin County shore of San Francisco Bay, George Niven, who is continuing the work of his father, James Niven, pioneer grower of exotic flowers, explained the tedious and often delicate process of developing a new variety of the flower which delights the debutante's heart.

"It used to take a lot of monkey business to create a new variety," Mr. Nevin declared. "In fact, we had to depend upon the monkeys, birds and storms in the tropics to carry the powder-like orchid seed from one plant to another. In this way new crosses or hybrids were constantly created. But a few years ago a professor at Cornell discovered that a culture made of sugar, agar-agar and certain chemicals produced a favorable condition for the germination and growth of seedlings. So now, orchids have become "bottle babies" and are raised in sealed flasks which are kept bacteria free.

These lovely flowers, which have erroneously been called "parasites," are for the most part epiphytes, or "air plants," and attach themselves to the limbs of trees not for nourishment, but for support. They derive their food entirely from the warm, moist atmosphere, which in their native habitat is heavily laden with decaying animal and vegetable matter.

In the commercial hot houses they are grown in pots filled with moss, or suspended from the roof in loosely woven baskets, through which the roots creep out into the vital, life giving air. But at the ninth annual California Flower Festival, which will be held in San Leandro this September, the natural setting of these aristocrats of all flowers, will be reproduced in every detail. The largest and most spectacular orchid display ever to be seen in the West will be a feature of the show which will run from September 14 to 17. One hundred and fifty square feet will be given over to this lavish exhibit and orchid growers from all over the state plan to participate. It is for this feature of the show that Mr. Niven is growing an orchid valued at $10,000. Five hundred dollars is not an unusual figure for a good hybrid and it is for such plants that the growers give seven years of attention to a new seedling before they have any idea of what the blossom will be like.

Most of the stock comes originally from Colombia, Venezuela and other parts of South America, but the lovely blue Vanda, which is grown commercially on a block of wood, rather than in a hanging basket, claims India and Burma as its native land. Australia also furnishes many of the better known varieties of Cymbidiums or "boat shaped orchids," although the danger of introducing insects and plant diseases from the tropical countries into American horticulture discourages wholesale importation of many of the species.

For this reason growers in this country are creating their own varieties, and although seven years are required to produce the first blossoms from the minute seed, what woman, as she pins the lovely flower upon her shoulder, feels that the effort has in any way been wasted.

CONSULTING ENGINEERS NAMED

To study engineering and construction details of the Cajalco dam and reservoir unit of the Colorado River Aqueduct, estimated to cost $9,386,000 with 108,000 acre feet capacity, the directors of the Metropolitan Water District have appointed the following board of consulting engineers:

Thaddeus Merriman, chief engineer of the New York City Board of Water Supply; Charles D. Marx, professor emeritus of civil engineering, Stanford University; J. L. Savage, chief designing engineer, Bureau of Reclamation, Denver, Colorado; Col. Charles T. Leeds, member of the firm of consulting engineers of Quinton, Code, Hill, Leeds and Barnard, Los Angeles.

CONSTRUCTION PRICE MANUAL

The Construction Survey Company of New York City announces a 300 page "Construction Price Manual," to cover 14,000 items of general, sub-contract and mechanical work. The Manual will provide greatly needed cost and price information on all types of structures and construction, and will be up-to-date in every respect. Interested architects, engineers and contractors may have further information by communicating with the above company at 101 Park Avenue, New York City.

NEW VALVE CATALOG

Jenkins Bros., 80 White Street, New York City, have just published a 264 page catalog. This book promises to become an excellent source of information concerning valves. It covers not only 400 Jenkins valves, in a wide range of types and patterns, but also presents complete details.

"OIL HEAT SERVANT," LATEST HEATING UNIT FOR MODERN HOME

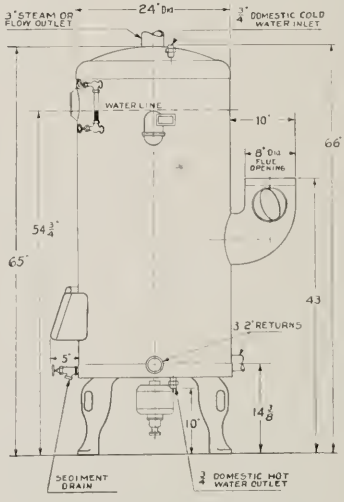
WITH the announcement of the "Oil Heat Servant," a new product of the S. T. Johnson Co. of Oakland, long prominent in the field of oil burning devices, comes renewed evidence of the fact that many manufacturers of necessities and conveniences for the modern home have been utilizing the lull in the building industry to develop new products, the one phase of modern business which sometimes receives scant attention when the thoughts of management are absorbed with problems of production. The breathing spell that has been forced upon nearly all manufacturers shows evidence of bearing fruit in the nature of new products of greater utility, convenience and economy than the home owner ever dreamed of before, all of which presages a new era in the continued high standards of the American dwelling.

Following suggestions of architects and builders for a combination heating boiler and domestic hot water unit fired by an oil burner, engineers of the S. T. Johnson Co. set out to design such a unit, and the result brought forth so many refinements in appearance, performance and positive controls that they have called it the "Oil Heat Servant," because it practically eliminates all of the labor and anxiety of attending a furnace. The introduction of the new unit has met with instant acceptance in the bay region where architects and home builders have long wanted a complete heating plant, built, guaranteed and serviced by one manufacturer, obviating any division of responsibility between manufacturers of heating boilers and oil burners.

The "Oil Heat Servant" is of the water tube type and so designed as to utilize the radiant heat of the flame as well as the radiated heat of the refractory lining and baffles. The 24 vertical water tubes of copper bearing seamless steel are so arranged that the ascending hot flame gases completely surround them. These gases first encounter a refractory lining which confines them to the lower portion of the water tubes. Just above the refractory baffle is another of steel which also holds the gases within narrow confines.

The boiler has approximately 40 square feet of heating surface, 90% of which is directly exposed to the radiant heat of the flame. Exhaustive tests run on this boiler by Leland & Haley, consulting engineers of San Francisco, show that this boiler has a thermal efficiency of 83% which spells operating economy because more than four-fifths of the heat value of the fuel oil is converted into useful heat and absorbed by the boiler. The unit has been given a rating of 150,000 B.T.U. output per hour, affording ample capacity to meet the heating requirements of the average to large size residence and small apartment building.

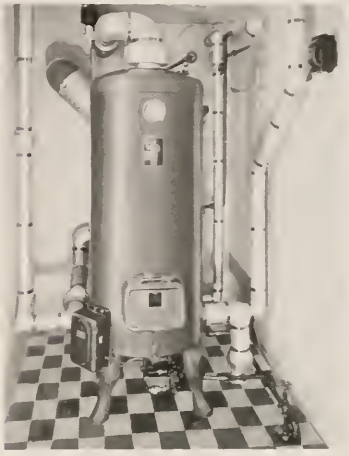
Domestic hot water for kitchen, laundry and bath is furnished from a coil of jointless copper



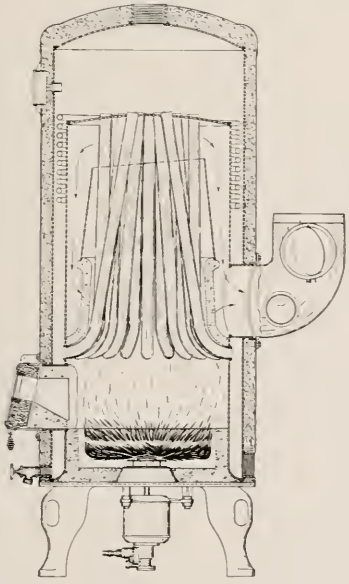
"OIL HEAT SERVANT" MEASUREMENTS

tubing, rustless and leakproof, which is built in below the water line of the boiler. The copper coil is submerged in the hot boiler water, and the cold water which enters the coil at the top is quickly heated in its passage through the coil, providing a capacity of six gallons of hot water per minute. When the copper coil has absorbed enough heat from the boiler water so that the temperature falls below the setting of the low limit control switch, the burner comes into operation automatically and brings the temperature of the water in the boiler to the desired point. An ample supply of hot water is available, whether the boiler is supplying heat for the home or merely supplying domestic hot water during the summer months. In this system of operation the conventional hot water storage tank with its separate hot water heater is entirely eliminated. The economy of this method of providing hot water is born out by the fact that the "Oil Heat Servant," operating on No. 3 furnace oil, containing 142,000 B.T.U. per gallon and figured at 5c, will produce 100 gallons of hot water for approximately 3/10 of 1c. On the Pacific Coast, where this grade of fuel oil is generally available around 3c per gallon, the cost of producing domestic hot water runs proportionately lower.

Of special interest to the architect and heating engineer is the fact that the "Oil Heat Servant" is available for steam, vapor or hot water heat. Home builders in California and the Southwest, where homes without basements are common, can utilize the hot water model of the "Oil Heat Servant" as a central heating plant by installing it on the same floor level as the radiators, placing it on the back porch or other convenient location. The steam and vapor models are adaptable for basement installations only.



"OIL HEAT SERVANT" INSTALLATION IN A PIEDMONT HOME



SECTIONAL VIEW OF THE "OIL HEAT SERVANT"

The Johnson oil burner which is utilized in this combinationboiler-burner unit is of the spinner type in which the fuel oil is fed into a cup shaped spinner, evenly distributed in a thin film on the inside surface of the spinner and atomized by being thrown from the edge of the spinner, in the form of a very fine spray. The electric motor which actuates the burner is mounted on resilient cushions, eliminating any vibration which might be transmitted from the motor to the heating system, making the "Oil Heat Servant" very quiet in operation.

This unit comes completely assembled and tested. Besides connections to the heating system it requires only water connections, an oil line and and electrical contact and it is ready to go into service. There is no fire box to build on the job and a minimum of electric wiring. Since the ignition system is entirely electric and the control system fool-proof, the conventional gas pilot is dispensed with, which makes the "Oil Heat Servant" the ideal unit in those urban and rural sections where electricity is readily available. Water, oil and electricity are therefore the only three requisites for the operation of the "Oil Heat Servant," and it may be installed wherever these three can be provided in combination.

BOOK REVIEWS

By Edgar A. Kierulff

PLANNING FOR THE SMALL AMERICAN CITY. By Russell Van Nest Black. Published by Public Administration Service, 850 East 58th Street, Chicago, Illinois. 87 pages. Illustrations, plans and photographs. Price $1.00.

This monograph was written, not to instruct the trained and professional city-planner, but to give organized and fundamentally sound information on the reasons for, and steps of procedure in, the controlled development of cities. It might be called a "Primer of City Planning" and could be placed, to general social and economic advantage, in the hands of all public officials, planning commissioners or other citizens who are concerned with any of the practical aspects of city management and development for our American towns and smaller cities. This would particularly apply where towns and counties may, or must, by law, have a planning commission and where, all too often, those entrusted with such official prominence have not the clearest understanding of the true principles and needs that underly city planning, nor the experienced and customary steps to be taken in carrying them forward.

In a brief way Mr. Black presents a background for the need and custom of city planning and states the general tendencies of our present time to recognize such facts. The text of his monograph is divided into three parts which discuss (1) "Making the City Plan," (2) "What Modern Planning Offers the Small City" and (3) "Carrying Out the City Plan." These discussions are all direct, simple and brief and carry the thought along in a clearly logical sequence. They offer nothing new to the trained city planner but they do suggest a comprehensive digest of current thought and opinion of the best contemporary thinkers along these lines. An appended bibliography, at the back of the brochure, presents material that would supply a valuable reference library to anyone who might make a study of this subject.

The elements of planning are discussed in the many ramifications of their structure, for both the complete city and the regional group, with a statement of data and information necessary to an intelligent study of problems. The many advantages that accrue through studied street plans, parks and playgrounds, zoning, location of public buildings, airports, railroads, proper housing, general civic beautification, water supply and sewage disposal are among the specific items that are analyzed. And finally the technical and administrative matters of organization for planning and plan administration, for control of the various factors that enter into planned functioning, and for the financial aspects of development are presented to the reader in brief but clear form.

As an appreciation of the art and science of city planning and as a brief statement of the machinery possible and necessary to promote progress in this field, this monograph is most commendable. It should do much good if it can be placed in the hands of Mr. Citizen and of those officials who are responsible for the economic and social welfare of our American communities.

Reviewed by RALPH D. CORNELL
Fellow, A.S.L.A.

ROAD AND STREET CATALOG AND DATA BOOK. Compiled, edited and published annually by the Gillette Publishing Co., Daily News Bldg., Chicago.

This is a new 1933 catalog brought up-to-date and made as complete as is possible with the steady development of new processes and labor saving devices. It contains several illustrations and sketches and gives in minute detail certain road and street construction practices. There is also a Data Section of engineering information and economic methods on the design, construction and maintenance of highways, roads and streets, compiled by Halbert P. Gilette, Editor of *Roads and Streets.*

THE HIGH BUILDING PROBLEM (?)

A letter from C. W. Marshall, who has a hobby for clipping strange and unusual articles, brings this excerpt from *The Graphic*, under date of January 2, 1892, which reflects at least one writer's pessimistic view in those days of the skyscraper and its future. (He should see the Empire State Building and a few others that have pierced the skies since he penned his effusion.)

[Editor of *The Graphic*:] Permit me a few words in regard to the high building problem. My pen is inspired to this article by the discussion of Mr. Louis H. Sullivan in your issue of December 19. His plan seems a very satisfactory solution of one phase of the difficulty. Sufficient light would be furnished, and, at the same time, the greed, or, to use a pleasanter term, the "rights" of the land owners would be preserved inviolate. It is a very inadequate conception of the building problem, however, which takes into consideration only the question of light. There are far graver factors in the problem; and the rights of the property owners, while they must not be overlooked or depreciated, sink into comparative insignificance when compared with public weal and municipal prosperity.

There are four serious objections to high building exclusive of the light question.

1st. There can be no adequate fire protection. It is impossible to reach a twenty-story building by any apparatus now in use. It will be urged that fire-proof buildings make the services of firemen and their equipments unnecessary.

Fire-proof buildings, however, are largely "a delusion and a snare." They are not all exempt from fires. Even if the walls will not burn, the furniture of an office may burn, and the blinding smoke cause a catastrophe equal to a genuine fire.

2d. It is quite generally admitted that these rapid flights heavenward are not good for the physical man, whatever may be said for the spiritual. A swift ascent or descent of twenty stories on these lightning elevators cannot but have a tendency to disturb the equilibrium of our delicately balanced and sensitive organism. When this rapid perpendicular transit is carried on ten or twenty times a day, it assumes a gravity not to be lightly considered. History has recorded but few instances of individuals who went up in whirlwinds and chariots of fire, and they never returned. The average Chicagoan is bound to return, no matter how high the elevator carries him, but whether he returns in as good condition after his aerial flight may be doubted.

3d. Chicago has no contract from the Titans below us that they will not sometimes blow their bellows directly underneath our city. We have, thus far, been comparatively free from seismologic influences. We have, however, no assurance of perpetual immunity from such disaster. If once a good-sized earthquake swings its cradle beneath this city, it will rock the pride of Chicago in the dust. The fate of Lisbon would be like a summer dream beside it. None walking the streets would escape, for every portion of the street would be filled with debris from the overtowering buildings. None in the buildings above the seventh or eighth stories would escape, for, hurled from such dizzy heights, death would be inevitable.

This may seem a pessimistic or hypochondriacal objection, yet I hold it to be valid. No scientist can possibly predict the location of the next subterranean wave. The fact that we have only felt a slight thrill and oscillation here in the past carries with it but little assurance for the future. With the changes in the climate, atmospheric currents, and the hidden, mysterious movement of these fires and streams which roll beneath our feet, we are hardly prepared to say what will happen in the physical world during the next decade. We ought not to be hazardous and reckless, and invite a disaster which, like all Chicago's enterprises, would be the biggest thing of its kind ever known.

4th. The real gravamen lies in this last objection—an undue congestion of humanity at the center of our city. At certain periods in the day pedestrianism is almost impossible in the business localities. To what enormity will this evil grow if men are permitted to erect twenty and thirty story buildings on every plat of ground from Lake to Harrison Streets and Wabash Avenue to the river? At noon and night, when the tenants of the countless offices come pouring into the street, it would inaugurate pandemonium.

Furthermore, it is an evident interference with the healthy growth of the city. The frenzy to build "skyscrapers" in the center of the city inflates the value of land there, and compels business property farther out to come slowly into the market, and at diminutive prices. If men holding property in the center of the city are wronged by a prohibition of high building, then men who own property farther away from the center are wronged by the permission of such structures. The city's prosperity ought also to be considered. It is not dependent upon the cloud-capped structures which rear their magnificent heads to such lofty heights in the center of the city, but upon the gradual enlargement and development of all parts of the municipal domain.

As regards the wrong done to those who own land in the favored localities, let me say that as soon as it becomes a settled fact that none but ten-story buildings can be erected the price of land will at once depreciate. None buying land in the future would be injured, and the present property holders—most of them, doubtless—bought it when the present fabulous prices were unknown, and would simply lose the difference between a fictitious value, for which they have not spent a dollar, and the real value, which would give them a fair interest on their original investment.

The four reasons stated seem to me to constitute a sufficient basis for the action of our city authorities in prohibiting the erection of any building above ten stories. The only arguments in favor are our pride in the erection of lofty, magnificent structures, and an inordinate greed for money, whose indulgence must be at the expense of the best interests of our city. Yours sincerely, MYRON W. HAYNES.

618 Englewood Avenue,
Chicago, December 21, 1891.

As an architect, your stiffest competition today comes from the tremendous number of "bargain houses" already built and glutting the market.

Yet, those same houses represent your present greatest opportunity.

What we mean is this: *Just as rapidly as more people can be educated to realize the deficiencies of present-day houses, just so soon will more people come to you in search of better ones.*

The electrical industry recognizes this problem which confronts architects, contractors and building supply factors alike. And it is endeavoring to educate more people to the advantages of a truly modern home. But such an educational program is a task in which everyone interested in building should take an active part.

The Pacific Coast Electrical Bureau will be glad to discuss with you any plan, any suggestion that may lead to sound new building.

And please feel free to call upon this Bureau for any electrical information — plans, recommendations, inspections — any service within our resources. We will be pleased to help—without charge.

Consider this:

Would it help if you were to specify the most modern lighting system—wiring and fixtures—in every house plan you draw up from now on?

This would save your clients costly rewiring expense later — please them — cause them to refer friends to you. And more—you would be helping to make present-day homes old-fashioned.

PACIFIC COAST ELECTRICAL BUREAU

An impartial organization supported by all branches of the electrical industry as an advisory bureau to serve users of electricity. 447 Sutter St., San Francisco; 601 W. 5th St., Los Angeles; 848 Roosevelt St., Fresno.

BUILD WELL—

A PROPERLY designed and well built building is a credit to any city and a worth while investment for its owner.

Such structures are the STANDARD OIL BUILDING, MATSON BUILDING, FOUR-FIFTY SUTTER STREET, STOCK EXCHANGE, S. F. BASE BALL PARK, MILLS TOWER, OPERA HOUSE and VETERANS' MEMORIAL and other notable structures — all built or supervised by —

Lindgren & Swinerton, Inc.

Standard Oil Building
San Francisco

The Only Building Paper with a Factor of Safety

BROWNSKIN

Resilient Waterproof Building Paper

Under sufficient strain BROWNSKIN will stretch, and due to this resiliency will adjust itself to shrinkage which occurs in any building.

Will last as long as the house itself.

Ask Your Architect . . . .
. . . . See Your Dealer

Manufactured By

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FEWER CONTRACTORS IN BUSINESS

Despite the low ebb of construction operations during 1932-33, it required 22,365 registered contractors to fulfill the building requirements of California business men and home buyers, or an average of one contractor for each 253 Californians.

And, while building operations suffered a sharp setback during the fiscal year ended June 30 last, the number of contractors engaged in construction operations dropped only 2,685 or approximately 10%, as compared with the 25,050 contractors licensed in the previous fiscal year.

So declared Colonel Carlos W. Huntington, state registrar of contractors in a report filed with Governor James Rolph, Jr., showing that licenses were issued to contractors at the rate of one every 23 minutes, or on an average of 2.5 every hour throughout the entire fiscal year.

In contrast, Col. Huntington pointed out that building operations in recent months have advanced at a rapid stride, and forecast a sharp increase in the number of persons who would engage in construction operations during the current fiscal year. This forecast, however, is predicted upon improved economic conditions.

Of the 22,365 builders registered June 30, a total of 4,484 represented new licenses issued during the fiscal year, while the remaining 17,881 licenses represent renewals of permits from the previous year.

"The general outlook for the building and construction industry, is exceedingly bright," Colonel Huntington reported, "and the trend of this industry is a good barometer to economic conditions throughout the state.

"In addition to the two giant San Francisco bay bridges and other public works projects, reports reaching our office show a substantial gain in private building activity, including business properties and home building. This gain in private construction is not centralized in any one section, but appears to be statewide in scope," he said.

Created by the 1929 legislature, the Registrar of Contractors' office is engaged in vigorously enforcing laws for the regulation of the industry and the protection of the public. The registrar is also aiding contractors in drafting codes of fair competition under the state and national industrial recovery acts.

While forecasting an increase in the number of registered contractors, Col. Huntington pointed out that amendments to the contractors' act have tightened up the requirements, and "will very likely prevent many persons who have held

licenses in the past from obtaining a license for 1933-34."

Los Angeles county led the state with 9,623 contractors registered, while San Francisco ranked second with 2,524 contractors, and Alameda County was third with 1,842 registrations. Trinity County and Alpine, the world's smallest county, were without a contractor, while Mono and Sierra each have only two contractors.

The following table shows the number of registered contractors in each county June 30, as compared with the registration on the same date last year:

	Registration June 30, 1933	Registration June 30, 1932
Alameda	1,842	2,008
Alpine	.....	1
Amador	13	15
Butte	104	126
Calaveras	4	2
Colusa	27	43
Contra Costa	257	261
Del Norte	17	25
Eldorado	28	21
Fresno	350	423
Glenn	21	33
Humboldt	130	146
Imperial	91	142
Inyo	13	12
Kern	192	211
Kings	52	52
Lake	28	41
Lassen	27	34
Los Angeles	9,623	11,020
Madera	19	31
Marin	132	225
Mariposa	5	4
Mendocino	56	65
Merced	61	78
Modoc	5	10
Mono	2	2
Monterey	237	278
Napa	30	86
Nevada	32	30
Orange	445	494
Placer	81	91
Plumas	10	12
Riverside	274	274
Sacramento	586	617
San Benito	14	22
San Bernardino	314	413
San Diego	1,118	1,260
San Francisco	2,525	2,582
San Joaquin	310	334
San Luis Obispo	132	144
San Mateo	596	549
Santa Barbara	345	374
Santa Clara	768	910
Santa Cruz	358	173
Shasta	22	22
Sierra	2	2
Siskiyou	27	44
Solano	135	150
Sonoma	292	315
Stanislaus	186	212
Sutter	21	29
Tehama	33	37
Trinity	.....	.....
Tulare	32	171
Tuolumne	15	23
Ventura	143	170
Yolo	66	75
Yuba	30	31

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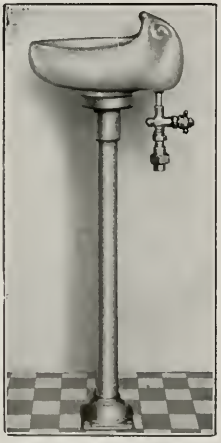

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SEA WATER CEMENT FOR BRIDGE PIERS

The first barge load of Golden Gate sea-water cement to be used in the construction of the San Francisco-Oakland Bay Bridge left the Redwood City plant of the Pacific Portland Cement Company September 1. This shipment, which is the first of the long caravan of barge loads to follow, was delivered to Bridge Builders Inc. to be used in the construction of the piers forming the substructure of the East Bay crossing, between Yerba Buena and Oakland.

The cement in this shipment is made especially for sea water construction and meets the new special requirements which all cement used in the Bay Bridge must meet, namely that in addition to all existing standards, the tri-calcium aluminate content must be limited to 8%. This new requirement is the result of a recent decision of the state engineers following exhaustive investigations and tests made by the laboratory of the State of California Department of Public Works and by the U. S. Department of Interior, which also specifies 8% limit on tri-calcium aluminate for all cement used on the Boulder Dam project.

The cement is delivered in bulk by barge from the Redwood City mill and is pumped into the barges with cement pumps through six-inch pipe lines, seven hundred feet long, loading bulk cement at the rate of eleven hundred barrels per hour. The weighing machines feeding the pumps are controlled by an electric eye equipped with a printing device for recording the weight of cement furnished, and duplicate weighing equipment maintains a continuous flow of cement through the pipe line into the barge.

$31,000,000 FOR STATE WORK

The California public works committee has submitted to the State Public Works Administrator 111 projects involving state institutions in 32 counties and contemplating expenditure of $31,397,697, provided Federal aid can be secured.

These projects include: University of California, $590,000; California School for the Blind, $25,000; California School for the Deaf, $560,000; Berkeley Armory, $100,000. The sum of $45,562 would be spent for improvements at the Industrial Home for Adult Blind in Oakland, and $250,000 for an Oakland armory.

Robert Patterson, secretary of the committee, admitted that many of the projects stood virtually no chance of being included in the Federal building program. He added, however, that the policy was to round up all possibilities and submit them for what they were worth.

The other projects include:

San Francisco County: University of Cali-

fornia Medical Department, $100,000; San Francisco State Teachers College, $1,585,000.

Los Angeles County: University of California at Los Angeles, $441,000; Norwalk State Hospital, $199,000; Whittier State School, $177,670; San Pedro Armory, $50,000; Santa Monica Beach, $85,000; Manhattan Beach, $95,000; Alamitos Bay, $25,000; narcotic hospital, $190,750; Pacific Colony, $967,920; new prison, $1,500,000.

Santa Clara County: Agnew State Hospital, $3,818,400; San Jose State Teachers College, $348,000; Woman's Relief Corps Home, $50,000.

Santa Cruz County: California Redwood Park, $120,000; Natural Bridges Beach, $15,000; Sea Cliff Beach, $15,000; Sunset Beach, $25,000.

Monterey County: Monterey Custom House, $1,000; Monterey First Theater, $3,000; Serra Monument, $1,000; Point Lobos Park, $35,000; Pfeiffer Redwoods, $15,000.

Mendocino County: Mendocino State Hospital, $403,455; Russian Gulch Park, $35,000; Van Damme Ranch, $11,000; Dimmick Park, $11,000; Hickey Grove, $15,000.

Sonoma County: Fort Ross, $14,000; Sonoma Mission, $1000; Vallejo Home, $9,000; Sonoma State Home, $889,400.

Marin County: Mt. Tamalpais Park, $10,000; San Quentin Prison, $300,000.

Napa County: Napa State Hospital, $1,399,522; Veterans' Home of California, $1,316,000; water supply, $460,000.

Contra Costa County: Mt. Diablo Park, $20,000.

Yolo County: University Farm at Davis, $150,000.

Sacramento County: State Fair grounds, $1,195,000; State Prison at Folsom, $200,000; American River flood control, $145,000.

San Bernardino County: Patton State Hospital, $1,059,617; San Bernardino Armory, $50,000.

Riverside County: Mt. San Jacinto, $55,000; University of California, $164,000.

San Diego County: San Diego State Teachers' College, $468,000; San Diego Armory, $150,000; University of California—La Jolla, $23,000; Mission Bay, $175,000; Silver Strand, $155,000; Cuyamanca Rancho, $175,000; Cosega Palms Canyon, $265,000; Palomar Mountain, $70,000.

BERKELEY RESIDENCE

W. W. Wurster, architect, 360 California Street, San Francisco, has completed plans and awarded contract for an $18,000 home on the Tamalpais Road, Berkeley, for Frederic Benner. Mr. Wurster has also awarded contracts for residences in Marin County and Santa Clara County.

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PROPOSED NEW SCHEDULE OF CHARGES

A new schedule of charges is under consideration by the Board of Directors of the American Institute of Architects. The directors have asked each Chapter to appoint a special committee to review the proposed revisions and report to the chairman of the committee, M. H. Furbringer, 110 Porter Building, Memphis, Tenn. It is important that all letters reach Mr. Furbringer on or before October 15th, so that he may submit his final report to the directors at a meeting to be held in Washington about November 1st.

The committee on the proposed new schedule of charges includes A. H. Albertson of Seattle, the only representative on the Pacific Coast. The report is as follows:

"The committee charged with the task of revising the Schedule of Charges has made an exhaustive study of the subject, and presents for the consideration of the members of the Institute the result of their labors thus far.

"In reviewing this document and in complying with the request of the committee for comments so that the matter may be studied further, we wish to draw attention to several items which should be considered in connection with this subject.

"In the first place, please take into consideration that this document is tentative, and that any comments will be given due consideration by the committee, as only in this way can we arrive at a solution based upon the consensus of opinions of the membership. The rates established for the different classifications were the result of much deliberation by the members of the committee, and also of a questionnaire submitted to about ten per cent of the members of the Institute selected from all sections of the country, including both large and small offices.

"In reaching our conclusions regarding the proper minimum fees, we were of the opinion that the rates should be such as to enable an architect to produce good, meritorious work, plus a reasonable profit, which cannot be done if the compensation is not commensurate with the work involved.

"After careful investigations, we have likewise come to the conclusion that an architect's commission should include the engineering for the contract drawings and specifications for the structure, and mechanical installations, and the fee on a percentage of the cost has been established on this basis. This accounts in some measure for the fee thus established, as it is obvious that if this service is included, as it seems to us it should be, the architect's charges should be adjusted with this in view. A careful reading of the document will disclose the fact that the contractor is to include in the service he is to perform the preparation of the shop drawings for the structural frame, as well as the mechanical installations, but we are convinced that the architect should include the design for the structural frame and mechanical features without imposing a separate charge upon the owner, as has been the custom in many cases in the past. Attention is directed to this part of the document for the reason that the new suggested rates are not raised, but adjusted, on this basis.

"There may be some criticism regarding the Institute attempting to offer any schedule which is based upon a percentage of the cost of the building, and we have tried to meet the objections of those who believe this method of charging is unsound by suggesting a cost plus fee, either method being optional. However, we are of the opinion that for some time to come the Institute should continue to suggest the rates, which are not mandatory, as applying to different classifications as a guide to its members as a just and fair basis on which the architect's fee should be computed.

"We have been petitioned by a number of members to recognize the growing practice of institutions to consult so-called specialists, and to compel the architect to include in his commission the fee of these specialists. Investigations disclose the fact that the service rendered by these consultants is, as a rule, of little value to the architect; at least it does not decrease the work he must perform, and for these reasons we have included in Article 6 the cost for consultant's charges to be paid by the owner.

"The necessity of furnishing a large number of blue prints and specifications, as is so often the case,, places a heavy burden of cost on the architect, and yet we were not able to arrive at a satisfactory solution of this problem. Until some better method is suggested, we have met this condition by stating that the architect furnishes a reasonable number of sets of plans and specifications, which we

believe can be determined by the architect in consultation with his client, or perhaps can better be adjusted through agreements with local contractors and builders.

"Many other considerations entered into the drafting of the document in its present form, and which we believe it is unnecessary to enumerate here. We realize it is not perfect, but we are of the opinion that if the members will give careful study to the subject and transmit their views to the committee, we will be greatly assisted in preparing a proper Schedule of Charges representing a fair cross-section of opinion and practice which the Institute can adopt, and which will be acceptable to the public.

"Finally, our investigations have disclosed the lack of proper methods, in many offices, of ascertaining the cost to the architect of performing the services he renders. A system of bookkeeping, not necessarily complicated, but consistently maintained, will furnish the information which we believe will convert anyone to the fairness of the rates established in this schedule. There may, no doubt will be, decided differences of opinions in regard to many of the other provisions of the document, but we do not believe it will be on the rates, which after fair and impartial investigations, based upon all the information we were able to obtain, we think are just and reasonable, and should be adopted by the Institute."

Following is the proposed new schedule of charges:

(1)	Residential work including single family dwellings and duplex houses	10 per cent
(1)	Apartment or multiple family houses	
(2)	Hotels	
(3)	Hospitals	
(4)	City and Country Club Buildings	
(5)	Theaters, Churches and Auditoriums	
(6)	Municipal and Departmental Buildings	
(7)	School and College Buildings	
(8)	Libraries	8 per cent
(1)	Banks and Office Buildings	
(2)	Shops and Stores	
(3)	Railroad Stations and Airports	
(4)	Industrial Buildings, Factories and Warehouses	6 per cent
(1)	Alterations, Remodeling, etc.	12 per cent
(1)	Interior decorations and furniture	
(2)	Monuments and Memorials	
(3)	Landscape	15 per cent

PERMIT VALUES DOUBLE

During August the building bureau of the Los Angeles County Regional Planning Commission issued 560 permits for buildings and structures estimated to cost $524,709 to be erected in unincorporated territory outside cities. For July, 1933, the number of permits issued was 498 with an estimated valuation of $476,435, while for August a year ago, the number of permits issued was 189 and the estimated valuation was $298,000. During the first 8 months of 1933 the number of permits issued was 3137 and the estimated valuation $2,841,012 as compared with 1701 permits and an estimated valuation of $2,970,500 for the corresponding period last year.

Following is the classified report of permits issued during August, 1933:

Single dwellings	168	$269,215
Duplex dwellings	2	1,400
Apartment houses		
Commercial buildings	32	39,805
Industrial buildings	11	53,675
Miscellaneous buildings	347	160,614
Totals	560	$524,709

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NO STATE CONVENTION

There will be no convention of the State Association of California Architects this year. Instead there will be sectional meetings and a joint meeting of the executive boards, North and South.

A review of the activities of the State Association since the last convention at Del Monte is contained in a letter addressed to the members by President Robert H. Orr, of Los Angeles, excerpts from which follow:

The convention last October charged the Association to seek certain amendments to the Act to Practice Architecture. The legislative committee, Northern and Southern Sections, went to work in earnest and prepared amendments which seemingly if enacted would have provided very beneficial results.

The earthquake in March, greatly hindered the work of the committee and unfortunately changed the attitude of the legislators toward architects in general, on account of adverse and unjust criticism brought against the profession.

The bill failed to receive sufficient votes to carry in the Senate. Two bills designed to protect the public against poor design and construction were seized upon by the Legislature and speedily passed, it seemingly being the thought that the architect was being penalized for the past. These bills, the "Field Bill" having to do with school house construction and placing the administration in the State Architect's office, and the "Riley Bill" to provide lateral force design, will have a far reaching effect upon future construction and the practice of architecture. A permanent legislative committee has been appointed to continue to work for the best interest of the profession and present a bill when the legislature convenes again in 1935.

In respect to the Field Bill its administration will be supervised by the State Architect's office.

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The Riley Bill will be administered by the counties or incorporated municipalities. Owing to the inadequacy of building departments in many cities the enforcement of the provisions of this act may be very improperly applied. A letter by the State Association has been addressed to every county and municipality in the Southern Section calling attention to the provisions of the act and requesting that they co-operate in requiring that proper plans be filed and a proper check of the same be made. In due time an inspection will be made of the building departments of some of the cities to ascertain if they are complying with the act. It is imperative that adequate and complete plans for lateral force design be prepared by all architects.

The Southern California Chapter of the American Institute of Architects and the State Association have held joint board meetings on several occasions for the betterment of the profession, particularly with regard to school work in general and within the city of Los Angeles. A very grievous situation has arisen in that certain school boards have asked the architects to assume the percentage required by the state for checking plans, and sorry to relate, some architects have offered to assume this charge in competition with fellow architects. This has brought forth a joint letter to state officials upon the subject and favorable responses have been received looking toward mitigating this evil. If 6% was a fair fee heretofore, and even then we often ran into the red, what are we going to do if the architect assumes the state fee, pays for additional blue printing required and complies with provisions of the Riley Bill? He will write his balance sheet in red blood of human endeavor against a losing profession. The city schools have followed the suggestion of the joint boards and appointed an advisory group of architects and engineers.

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What will follow is of interest to every architect.

A committee from the State Association, Northern and Southern Sections has been appointed to co-operate with the state architect's office and assist in carrying out the provisions of the Field Bill.

Code—To write a code for the architectural profession under the National Industrial Recovery Act, Title I, has become a fact and not a theory. In dealing with this the Chapter and the Association have held two joint board meetings and concluded to leave the matter in the hands of a very able committee now at work for the Institute and State Societies and Washington. One request was made that some regulation be applied to Architectural Bureaus in state, municipal and political sub-divisions of the state. Unification came none too soon. Now the interests of the entire profession can be co-ordinated.

The Construction League of the U. S. Code will become a part of the Architects Code.

A Code of Fair Competition for architects was filed with the National Recovery Administration on August 1, 1933.

The Construction League of California under the State Chamber of Commerce is now undertaking the task of becoming a clearing house for various codes. Architects are well represented in this League.

New Director—David J. Witmer having been elected regional director of the Sierra Nevada Division of the American Institute of Architects becomes a director of the State Association at large for the term of his office.

New Officers—With the close of the year in October vacancies are to be filled on the Board; one to be appointed by Southern California Chapter for a period of two years to succeed Robert H. Orr, whose term expires; one to be appointed by the State Board of

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CREDIT "JAGS" AND THE BUSINESS CYCLE

Unless the fundamental causes of business depressions are correctly diagnosed, prevention of future depressions will never be possible. The most commonly assigned causes of the present depression are over-production of commodities and over-expansion of the instruments of production. Granting that these are among the contributing causes, is there not a cause of those causes?

The instruments of production are mainly land, buildings and machinery. While land cannot be increased, it can be put to use where formerly it was either entirely or partially idle, and its output can be increased by the use of machinery. Both of these methods have been employed by farmers, and with disastrous results to themselves. But what made it possible for the average farmer to increase his output inordinately? Credit. Insurance companies and banks vied with one another to furnish farmers with credit. Excessive expansion of farm output was the inevitable result under the existing economic system. Now that the government is enabling the farmer to secure credit and at lower interest rates, it is virtually pouring gasoline on the fire. But while thus augmenting the blaze by lowering interest rates, the government is trying to curb the flames by inducing farmers to reduce their cultivated acreage by paying them rentals on idle lands! Since this rental money will come from the consumers of farm products in the form of a "process tax," and since those consumers outnumber all the farmers by nearly four to one, it is easy to

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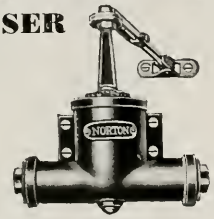

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see how this "noble experiment" will end.

As the effect of excessive credit upon building, real estate booms all over America prior to the debacle of 1929 are witnesses. Those booms are financed mainly by loans secured by mortgages. And now most of the property investments thus financed are not worth the mortgages even on the allegedly conservative basis of 50 per cent of the former market value.

Factories were expanded rapidly during the last boom period, largely by the aid of borrowed money. Stocks were also sold to raise money for those expansions, but usually those sales were on the installment plan, which means more credit.

Every stock market boom is financed on credit, for buying on margin is a credit transaction.

In 1929 the total indebtedness of the American people is estimated to have been in excess of 300 billion dollars, or $2,500 per capita, or nearly $10,000 per family. This indebtedness was fully 75 per cent of the value of all property in America, even at the high prices of 1929. During the preceding 40 years American per capita income had become three-fold, but per capita indebtedness to banks had become ten-fold, and other indebtedness had mounted even faster than that.

If credit were "the life of trade," America would have been entering upon its era of greatest prosperity in 1929. But credit is like certain drugs, a little of which is healthful stimulant, whereas more is deadly.

If excessive credit is the basic cause of booms, and its sudden curtailment is the main cause of panics, then we are a long way yet from a "planned economy" that will prevent or even mitigate future depressions. We are working out of this depression, much as we have worked out of previous depressions. Several years of prosperity are in sight. But unless control of credit becomes more

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effective, another boom will occur, and another debacle, all of which will be erroneously attributed to machinery and its diabolical habit of over-production. — Editorial in *Roads and Streets.*

REDESIGN SCHOOL BUILDINGS

Standard plans for different types of school buildings in Southern California are being drawn, under the guidance of an advisory committee appointed by the Los Angeles Board of Education. The committee is comprised of John C. Austin, architect; Allan E. Sedgwick, structural engineer and geologist and Paul Jeffers, structural engineer. Approximately 400 city high, junior high and elementary school buildings are to be redesigned or reconstructed to conform with the new state building laws providing means to resist lateral forces produced by earthquakes.

The duties of the advisory committee are fully set forth in the agreement between the board of education and the members which contains the following provisions:

"Whereas, it is the desire of the District to secure expert and technical services and advice in connection with the program for rehabilitating and reconstructing school buildings, particularly as a result of damages caused by the earthquake on March 10, 1933, and in line with the recommendations contained in the report of the Joint Committee of which Dr. Robert A. Millikan was chairman; and whereas the parties of the second part are willing to devote their personal attention to such services and advice;

"Now Therefore, the said parties of the second part for the consideration hereafter named do agree to perform, and furnish prompt expert and technical services and advice in connection with such program which shall in all ways co-ordinate with the State demands for school building construction and which shall include the following:

"1. Examine all damaged school buildings, which the District considers unsafe, to determine whether or not some of them may be saved by reconstruction.

"2. Classify all school buildings according to the type of construction and make corrected designs of one or two existing buildings of each type, which will make them conform to the requirements of the new school law and the recommendations of the Joint Technical Committee.

"3. Prepare complete plans and specifications for these corrections and determine by bids or estimates the cost involved. These plans and specifications are to be sufficient for the complete rehabilitation of the buildings involved and should be useful as a guide or standard for all other buildings under consideration.

"4. Average the cost of correction of the buildings of each type and determine therefrom the total cost of making all the buildings conform to the above standards.

"5. Make a geologic investigation of all school sites to determine whether or not there are any wherein the ground conditions are unfavorable to the type of construction now used; or whether any site may be so unfavorable that it should not be used for school purposes."

The resolutions further provide for progress reports on the work. Compensation at the rate of $125 a month is provided, the period of work not to exceed three months.

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